SEE 'WHAT'S IN STORE FOR '54' AT SHOW

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AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Gags of the Week
Air Conditioning, Poker, and Singapore
'From Here to Eternity'
Genius vs. a Town
Wrong Man In Right Place
No Chauffeured Limousine
Lowney's Stray Cats
Handy Yet
Boy Sprout In Beaulah Land

Stories of the Week

James J. Nance, president of Packard Motor Car Co., and C. F. Kettering, General Motors wizard, were honored guests at the recent Ohio Sesquicentennial celebration in Cleveland.

Parade car to which they were assigned was a Packard.

Nance grinned broadly. "Boss Ket" grinned, too.

"I'm going along in case Jim needs a mechanic for this wagon," he cracked.

Home from a "field trip" to a Museum of Natural History, fifth-grader Joey was disgustipated.

"Teacher took us to see a dead circus," he snorted.

Gags of the Week

There was a time when a fool and his money were soon parted. Now it happens to everybody.

Q.: "Where is the capital of the United States?"

A.: "All over the world."

Air Conditioning, Poker, and Singapore

What a headline! Outside of *Mother, Home, and the Flag,* can't see how we could beat its appeal—for this column at least.

We're ALL excited about air conditioning. Furthermore, almost everybody we know in our industry loves to play poker. And Singapore has the most intriguing connotations . . . dusky Marilyn Monroes, sinister dragnets, exotic mysteries, wicked deals. . . .

Anyway, a remarkable character who lectures under the name "Singapore Joe" Fisher told us a story which combines all three sure-fire elements.

"Us" means Dope and Mark Beltaire, widely read columnist for the *Detroit Free Press.* (We name-drop Beltaire into this discussion because, as a writer for a daily, he scooped us by a country mile—even though this piece was written 15 minutes after leaving the two of them.)

For 20-odd (and we do mean ODD) years Fisher operated the Capitol Theater in Singapore. In the early twenties a Carrier representative sold him on air conditioning his showplace. Dammit, the Singapore Health Commissioner wouldn't issue a permit.

"My constituents," he haughtied down his monocle, "would catch pneumonia in those cold draughts."

Fisher air conditioned one room of his house, and tried to entice thither the Health Commissioner and other political biggies for a demonstration. No dice. Pneumonia, y'know.

Later, in a poker game with these same politicos, he won $700. The losers cried for revenge. Joe's terms: the return game had to be played in his air conditioned room. For a chance to get their money back penumonia seemed a minor hazard.

You can write the tagline to this story. Joe let 'em win, nobody caught even a sniffle of a cold, the bigwigs were enchanted with air conditioning, and Fisher got his permit.

Thus were the Malay States opened up as a prime market for the American air conditioning industry.

(Concluded on Page 18, Column 1)

'No Conclusions Reached' Says Kelvinator's Mason On Hudson Merger Talk

DETROIT—No agreements or conclusions have been reached at this time in negotiation talks between Nash-Kelvinator Corp. and Hudson Motor Car Co., Nash-Kelvinator's President George Mason declared last week at a press conference previewing the new Nash automobile line.

Mason told the press that "I will not deny that I have talked to the president of Hudson, but certainly no conclusion has been reached."

The veteran automobile and appliance top executive declared emphatically that "Nash-Kelvinator's future will not be dependent upon merger with any other company."

He made a point of denying rumors

(Concluded on Page 2, Column 3)

N.Y. May Crack Down On Faulty Installations Of Room Conditioners

NEW YORK CITY—Three major appliance dealers, reportedly located in Brooklyn, were recently fined $50 for allegedly failing to comply with the provisions of a local code when installing room air conditioners.

The code requires that before an appliance is installed, a licensed electrician must first inspect the premises, have the survey approved by the Department of Water Supply, Gas, and Electricity, and then install the appliance according to specifications.

According to a department spokesman, a room air conditioner must be installed on a separate circuit

(Concluded on Page 2, Column 3)

New Kelvinator Hermetics Are Being Introduced

DETROIT—A new line of internally-mounted sealed condensing units that are claimed to have five exclusive features has been announced by the Kelvinator Div. of Nash-Kelvinator Corp. here.

The new line, in sizes ranging from ⅛ to ⅓ hp., is being shown for the first time at the All-Industry Exposition in Cleveland.

According to H. C. Patterson, Kelvinator commercial sales manager, the five exclusive features are:

1. Suction at the top of the dome. This directs cool refrigerant over the motor windings and compressor body,

(Concluded on Page 55, Column 1)

Dirty Units Said To Cause Most Market Fires

BUFFALO—John A. Neale, chief engineer of the National Board of Fire Underwriters, said here recently that most supermarket fires are caused by poorly-maintained refrigeration equipment.

Motors are often neglected, he said, and lint, dust, and oil accumulate on them, preventing proper dissipation of heat.

He recommended a regular maintenance service of cleaning, inspection, and lubrication, with a service record kept of each unit.

Neale, who spoke at a session of the Supermarket Institute in the Hotel Lafayette, said that there is a sameness to individual fire reports on supermarket fires that is striking and makes analysis of the problem very simple.

He explained how fire starts in the service section, burns undetected while the store is closed, and because of windowless walls, goes un-

(Concluded on Page 24, Column 1)

Show Facts In Brief

Place: Cleveland Public Auditorium.
Show Hours:

Monday, Nov. 9
2 p.m. to 10 p.m.

Tuesday, Nov. 10
10 a.m. to 6 p.m.

Wednesday, Nov. 11
10 a.m. to 6 p.m.

Thursday, Nov. 12
10 a.m. to 4 p.m.

Who will be admitted? Anyone with a legitimate connection with the industry. (Bring a business card or business letterhead, if possible, to certify your connection with the industry.) Registration (at no charge) will be at the entrance to the Exhibition Hall.

(See page 8 for Master Program of events in connection with the Show.)

RACCA and Union Hurl Defy on Auto Conditioner Work

WASHINGTON, D.C. — A notice that it will "insist" that automotive refrigeration and air conditioning installation and service work in the field be contracted for by bona fide contractors employing members of the United Association, has been served on the automobile industry by a joint committee of the Refrigeration and Air Conditioning Contractors Association and the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry.

Any attempt by the automobile industry or others to modify the protective provisions of any city or state refrigeration codes will be resisted, it also states in the resolution adopted during a recent meeting of executives of the two associations at the DuPont Plaza hotel here. Among those signing the resolution for the United Association was Martin T. Durkin, former Secretary of Labor in President Eisenhower's cabinet.

The resolution also declares that RACCA recognizes the United Association as the only trade union possessing the sole and exclusive right

(Concluded on Page 4, Column 3)

Union Asbestos Buys Nevinger Mfg. Co.

CHICAGO — Entrance of Union Asbestos & Rubber Co. here into the air conditioning field and purchase of Nevinger Mfg. Co. of Greenville, Ill., has been announced by Norman C. Naylor, president of the Chicago firm.

Carl Nevinger, founder and former president of the Greenville firm, which has long been a well-known supplier of branded air conditioning units and components to other manufacturers, will remain in charge of the Greenville operation as general manager.

Here will be produced the company's line of domestic, industrial, and commercial heating and air conditioning equipment.

Union Asbestos has been associated with the refrigeration industry for some time through its Dromgold & Glenn Div. which manufactures "Coldmobile" truck refrigeration units.

The company has plants in Illinois at Bloomington, Blue Island, Cicero, and Earlville, and at Paterson, N. J.;

(Concluded on Back Page, Column 3)

'First' Showings Of Many Items Are Scheduled

230 Firms Participating At Cleveland In Biggest All-Industry Show Nov. 9-12

CLEVELAND — Holding the promise that it will present the greatest number and variety of air conditioning and refrigeration products ever to be assembled and shown under one roof, the 8th All-Industry Refrigeration & Air Conditioning Exposition opens Monday, Nov. 9 at Cleveland Public Auditorium, and will continue through Thursday, Nov. 12.

With some 230 manufacturers taking what amounts to a record amount of exhibit space for the Show, as reported by W. A. Sieg-

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Map of Downtown Cleveland.....28

fried, chairman of the Show Committee, those attending will be treated to the greatest display of equipment and components in the history of the refrigeration and air conditioning industry.

The All-Industry Refrigeration & Air Conditioning Exposition is

(Concluded on Page 4, Column 1)

Wilcox-Gay To Market Majestic Appliances

BROOKLYN — Wilcox-Gay Corp. has recently formed a new Majestic Appliance Div. that will merchandise a complete line of major appliances, including room air conditioners, on a direct-to-dealer basis, Leonard Ashbach, president, announced recently.

Ashbach said that Lionel Marks,

(Concluded on Page 4, Column 2)

Tecumseh Introducing 7 New Units for Many Types of Applications

TECUMSEH, Mich. — Seven new products, including a twin-cylinder conventional "H" model compressor designed specifically for automotive air conditioning applications and a ¾-hp. single-cylinder compressor for air conditioning, has been announced by Tecumseh Products Co.

Other new products are ⅛ and ⅙-hp. pancake compressors; a ⅛ and ⅙-hp. adjustable slant, static unit; a 1½-hp. twin-cylinder air conditioning compressor; a new line of

(Concluded on Back Page, Column 1)

4 Room Air Conditioner Mfrs. Announce New Lines for '54

* * *

Kelvinator Expanded Line Includes Heating

DETROIT — Kelvinator recently announced an expanded line of five room air conditioners for 1954, including pushbutton controls and auxiliary heating for year-round service.

They will be shown for the first time at the Eighth All-Industry Refrigeration and Air Conditioning Exposition in Cleveland Nov. 9-12.

The new units range from ½ to

(Concluded on Page 46, Column 4)

* * *

Remington Cabinet Has Horizontal Styling

AUBURN, N. Y. — New cabinet styling with smart horizontal lines, automatic temperature control, 2 speed fans, optional electric heating, easy filter removal, and odor control, are among the features built into the new Remington ½-hp. deluxe window unit for 1954, it was announced here by M. L. Judd, general sales manager, Air Conditioning Div., Remington Corp.

(Concluded on Page 57, Column 1)

* * *

G-E Redesigned Line Increases Cooling

LOUISVILLE, Ky.—A completely redesigned line of room air conditioners, including models in four sizes—1 hp., ¾ hp., ½ hp., and ⅓ hp. —has been announced for 1954 by the General Electric Co.

This is the most extensive room air conditioner line ever to be produced by General Electric.

Harold B. Donley, general manager of the specialty refrigeration prod-

(Concluded on Page 57, Column 1)

* * *

Mitchell Units Don't Protrude Into Room

CHICAGO — A new approach to styling, engineering, and operation of room air conditioners is incorporated in the 1954 line of Mitchell units, it was announced by Bernard A. Mitchell, president of the Mitchell Mfg. Co.

The new Mitchell line consists of 10 models in the following sizes: ⅓ hp., ½ hp., ¾ hp., 1 hp., and 1½ hp.

Mitchell's approach to styling is

(Concluded on Page 57, Column 3)

Chicago ASRE To Tour New Hotpoint Refrigerator Plant

CHICAGO—A guided tour through the new refrigerator plant of Hotpoint Co. in Cicero has been scheduled for the November meeting of the Chicago Section of the American Society of Refrigerating Engineers.

The inspection trip is set for Thursday, Nov 12. The program includes a dinner starting at 6 p.m.

Get Moisture the FIRST Time!

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Westinghouse Cuts Price On Some Laundromats

MANSFIELD, Ohio—Price reductions on the company's low end Laundromat automatic washer and electric clothes dryer were announced recently by J. J. Anderson, manager of the laundry equipment department, Westinghouse Electric Appliance Div.

The models affected were the LS-7 Laundromat with a new suggested retail price of $199.95, down from $249.95, and the DS-7 clothes dryer with a new suggested retail price of $169.95, down from $199.95.

Anderson pointed out that Westinghouse is extending full dealer protection covering these two models. No price changes were announced on the deluxe LB-6 Laundromat and the D-6 clothes dryer.

Carrier To Cool 41-Story Prudential Bldg. In Chicago

SYRACUSE, N. Y.—A contract for air conditioning equipment for the new 41-story Prudential Insurance Co. building in Chicago has been awarded to Carrier Corp., Carrier officials announced recently.

The structure will be the largest completely air conditioned skyscraper in the Midwest and will be the first in Chicago to have air conditioning installed at the time of erection.

Nearly 1,000,000 sq. ft. of floor space will be cooled by a high velocity system with individual room controls. Total refrigerating capacity will be 3,000 tons.

Merger Talk--

(Concluded from Page 1, Column 2)

that merger negotiations had also been carried on with such other companies as Studebaker Corp. or Packard Motor Car Co.

It was also stated in the press conference that there is nothing to the talk in business circles that mergers are "the only way out" for the independent automobile firms.

"Those who are selling the independents short cite certain cost factors which they exaggerate and imply are insurmountable," Mason said. "The independents can purchase parts and components as cheaply as the big ones."

Room Cooler Wiring--

(Concluded from Page 1, Column 2)

unless wiring is adequate to carry the load. He said that during the past summer, many dealers simply plugged air conditioners into the nearest outlet.

In an effort to help overcome this problem, Consolidated Edison Co. has set up an adequate wiring bureau headed by James O. Covington. The bureau is offering to provide information on wiring needs for various types of installations and buildings so air conditioners and appliances may be installed properly.

Covington said the wiring in nearly every building in greater New York constructed prior to World War II is inadequate for proper operation of room air conditioners. He said each building should be surveyed by an expert before such units are installed.

Keep Home Clean, Dry To End Mold, Hay Fever Victims Told

CARBONDALE, Ill.—Note to hay fever victims: You may suffer less if you keep your home clean and dry.

That's the word from Dr. Leo Kaplan, Southern Illinois university botanist, who points out that hay fever can be caused by molds that float in the air, as well as by ragweed and other plants.

These molds grow and reproduce in damp closets and basements, behind woodwork, and in overstuffed furniture, according to Dr. Kaplan. Keeping the home clean and dry will reduce the chances of the molds causing the sniffles, he said.

USDA Advises on Freezing Of Milk In Home Freezers

WASHINGTON, D. C.—Homogenized milk in paraffined-cardboard containers can be frozen successfully in home freezers and held about a month, according to dairy specialists of the U. S. Department of Agriculture.

The paperboard bulges out and there is enough headspace to prevent breakage of the seal, they say. A storage temperature of 0° F. is recommended.

N. Y. Distributor Places $1,250,000 Order for G-E Packaged Air Conditioners

BLOOMFIELD, N. J. — General Electric's air conditioning division recently announced a record $1,250,000 order for packaged air conditioners from Apparatus Distributors, Inc., G-E distributors in New York City and northern New Jersey.

It is the largest single order of its kind in the air conditioning industry's history, according to G-E officials.

The order covers packaged air conditioners ranging in size from 3 to 15 tons. The units are for installation in stores, offices, and commercial establishments.

Louis Lidsky, president of Apparatus Distributors, said the record order was placed to cover anticipated sales volume through the winter.

Apparatus Distributors, Inc. has headquarters at 688 Bedford Ave., Brooklyn.

Supermarket Chains Strong For Self-Serve Operations

DETROIT—Recent statements by grocery chain spokesmen indicate that supermarket operators are putting more of their operations on a self-serve basis.

A representative of First National Stores, Inc. said this chain is now more than 90% self-service. Ray E. Dillon, president of J. S. Dillon & Sons, a Kansas chain, pointed out that "We're 100% self-service in groceries, 65% in meats, and 100% in produce."

Reported Glenn R. Grife, executive vice president of Red Owl Stores, Inc. of Minneapolis: "We haven't put in any stores that aren't 100% self-service in the last two years."

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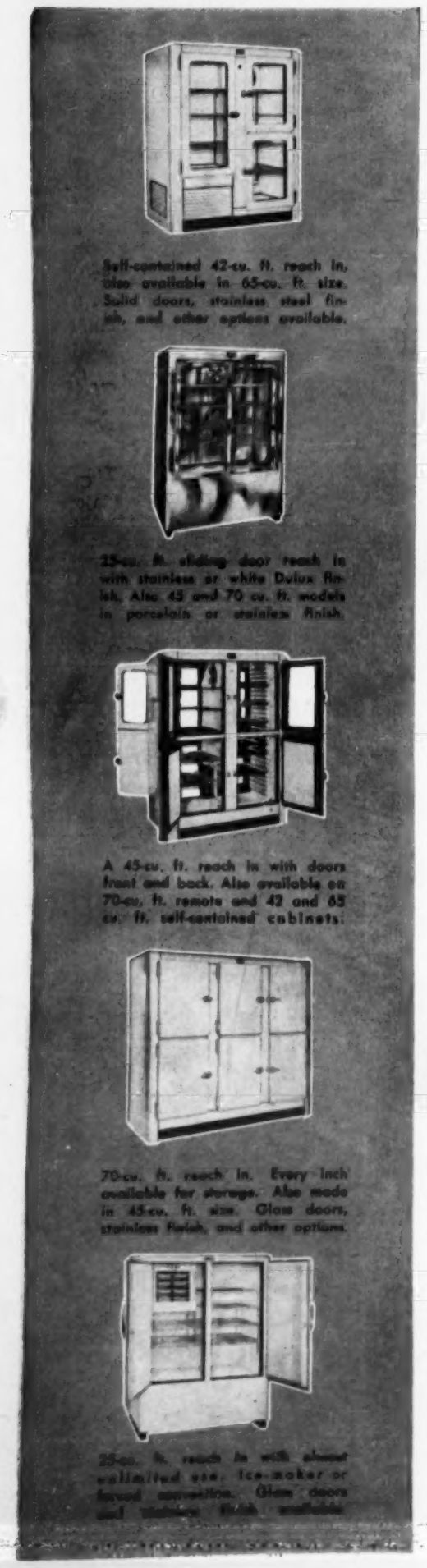
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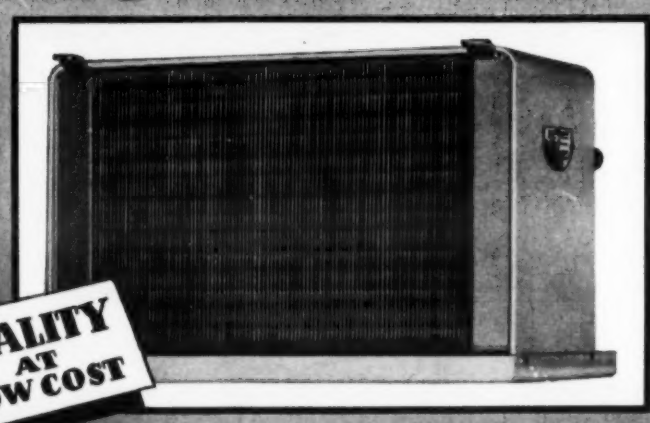

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433-UC	433	760	121.49 Sq. Ft.	198.00
540-UC	540	995	154.13 Sq. Ft.	241.00
688-UC	688	1260	204.19 Sq. Ft.	307.00
867-UC	867	1670	256.50 Sq. Ft.	348.00
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All-Industry Show--

(Concluded from Page 1, Column 5)

open to anyone who has a legitimate connection with, or interest in, the industry and its products. Registration is at the entrance to the Exhibition Hall at the Auditorium, and there is no registration or admission charge.

This is the first All-Industry Show to be held since the merger of REMA and ACRMA into the Air Conditioning and Refrigeration Institute, and this, plus the boom in air conditioning in the past two years, has served to bring many new exhibitors into the Show. There are some 50 exhibitors at the 8th All-Industry Exposition who did not exhibit at the last one.

A number of manufacturers are using the All-Industry Show as the place at which new lines of products will be introduced. This includes several lines of room air conditioners, which will be exhibited in a considerable number for the first time in the history of the Show.

Advance information on the exhibits also indicates that there will be more air conditioning, refrigerated fixture, and other "end use" products exhibited at this Show than at previous ones.

Many major industry associations are holding conventions or meetings in Cleveland during the period of the Show, among them being the Refrigeration & Air Conditioning Contractors Association, Refrigeration Service Engineers Society, National Commercial Refrigerator Sales Association, and Refrigeration Equipment Wholesalers Association.

L. C. McKESSON
President of ARI

W. A. SIEGFRIED
Heads Show Committee

Air-Conditioning & Refrigeration Institute is the organization sponsoring the All-Industry Show, and the Show chairman and committee are selected from industry executives active in the affairs of the association.

Wilcox-Gay--

(Concluded from Page 1, Column 5)

formerly president of the Ajax Corp. of America, will head the new division as vice president.

The white goods lines will be manufactured for Majestic by Universal Major Elec. Appliances, Inc.

The lines will include five refrigerators, six chest-type freezers, an apartment-size range and four 39-in. ranges, two automatic washers, a clothes dryer, four wringer washers, four ironers, a sink-dishwasher combination, and three room coolers.

Ashbach said that distribution would be handled through the company's factory warehousing centers in Chicago, Boston, New York City, and Los Angeles, and on a direct-to-dealer basis outside these areas.

RACCA-Union Hurl Defy on Auto Cooling--

(Concluded from Page 1, Column 4)

to perform the work of handling, installing, repairing, and maintaining automotive refrigeration and air conditioning systems.

The two groups also "insist" that installation and service work be "contracted for by bona fide contractors employing members of the United Association."

Each group recognizes the other as bargaining agents for "agreements affecting wages and working conditionings in connection with the installation and servicing of air conditioning and refrigeration in automotive equipment.

Ray Kromer, executive president of RACCA, declared that the resolution is intended to cover automobile air conditioning and also truck refrigeration installation and service. He pointed out that it does not cover "in plant" installations by manufacturers, but does cover all installation and service work outside the plant.

It was not specified what kind of "action" would be taken to resist changes to city or state codes, or against those who did not contract with contractors for their air conditioning service work.

Text of the resolution is as follows:

"Whereas, The REFRIGERATION AND AIR CONDITIONING CONTRACTORS ASSOCIATION is the established organization of contractors engaged in the handling, installing, repairing and maintenance of refrigeration and air conditioning systems in connection with automotive equipment, and

"Whereas, The UNITED ASSOCIATION OF JOURNEYMEN AND APPRENTICES OF THE PLUMBING AND PIPE FITTING INDUSTRY OF THE UNITED STATES AND CANADA, AFL,—hereinafter referred to as the 'United Association'—is the organization of craftsmen whose members handle, install, repair and maintain refrigeration and air conditioning systems in connection with automotive equipment, and

"Whereas, The American Federation of Labor—guided by its official records of the work jurisdiction of the United Association—has established the United Association as the only trade union whose members possess the sole and exclusive right to perform all the work of the refrigeration and air conditioning industry, and

"Whereas, The REFRIGERATION AND AIR CONDITIONING CONTRACTORS ASSOCIATION will establish Installation and Service outlets where required, and

"Whereas, the representatives of these two organizations wish to cooperate in insuring a safe and healthful condition for the operator and passengers of an automobile, bus, truck, or other public conveyance by providing a quality of workmanship uniformly high through the services of qualified, trained mechanics employed by qualified contractors; therefore

BE IT RESOLVED

I

"Inasmuch as refrigeration and air conditioning work in its most minor detail is work coming within the trade line jurisdiction of the United Association which covers installation and service work of all equipment; therefore, we, the Joint Committee of the Refrigeration and Air Conditioning Contractors Association and the United Association, in order to avoid jurisdictional controversies with other trades, insist that automotive refrigeration and air conditioning, as well as service work, be contracted for by bona fide contractors employ- service this equipment.

II

"That the Refrigeration and Air Conditioning Contractors Association hereby recognizes the United Association as the only trade union possessing the sole and exclusive right to perform the work of handling, installing, repairing, and maintaining refrigeration with automotive equipment.

III

"That the United Association hereby recognizes the Refrigeration and Air Conditioning Contractors Association as the bona fide organization of contractors engaged in refrigeration and air conditioning work of every description, and further recognizes its local chapters as bargaining agents for agreements affecting wages and working conditions in connection with the installation and servicing of air conditioning and refrigeration in automotive equipment.

IV

"That in order to assure the highest uniform quality of refrigeration and air conditioning of passenger car and truck equipment, the Refrigeration and Air Conditioning Contractors Association and the United Association agree to unite in providing a program of apprentice and journeyman training which will supply an adequate number of craftsmen fully qualified to assure the best of workmanship to the purchaser in connection with automotive equipment.

V

"That all local chapters of the Refrigeration and Air Conditioning Contractors Association and all local unions of the United Association jointly cooperate in this effort to procure the highest quality of refrigeration and air conditioning performance for the public, by recognizing their mutual obligation as described above, and, further, we will resist any attempt on the part of the automotive industry and/or others to remove or modify the protective provisions of the city or state refrigeration codes, as it may pertain to refrigeration and air conditioning equipment being installed in all automotive equipment.

"(Signed) R. W. Lampie
E. W. Farr, Jr.
G. T. Howe
Ray Kromer

For the REFRIGERATION AND AIR CONDITIONING CONTRACTORS ASSOCIATION.

Martin T. Durkin
John J. McCartin
Leo A. Green
Robert F. Lynch

For the UNITED ASSOCIATION."

See you at the Exposition Nov. 9-12. Stop at the PENN booths 712-14—you'll walk out feeling better!

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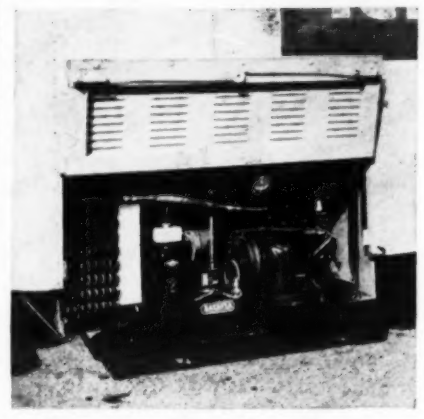
WHERE THE BEST IN REFRIGERATION IS REQUIRED

SPECIFY DOLE COLD-CEL PLATES



DOLE COLD-CEL PLATES are specified by the manufacturer of this modern 1500 gallon hydraulically refrigerated all-aluminum body.

To provide efficient, continuous, over-the-road refrigeration, the compressor is connected to a hydraulic drive. This unit can be plugged into any electrical outlet for overnight charging.

WRITE FOR CATALOG CE.

BOOTH 740
8TH ALL-INDUSTRY REFRIGERATION AND AIR CONDITIONING EXPOSITION
Cleveland—November 9 through 12

DOLE REFRIGERATING COMPANY
5920 N. PULASKI ROAD
CHICAGO 30, ILLINOIS
103 PARK AVE., NEW YORK 17

In Canada: Dole Refrigerating Products, Ltd.
44 Elgin Street, Brantford, Ontario

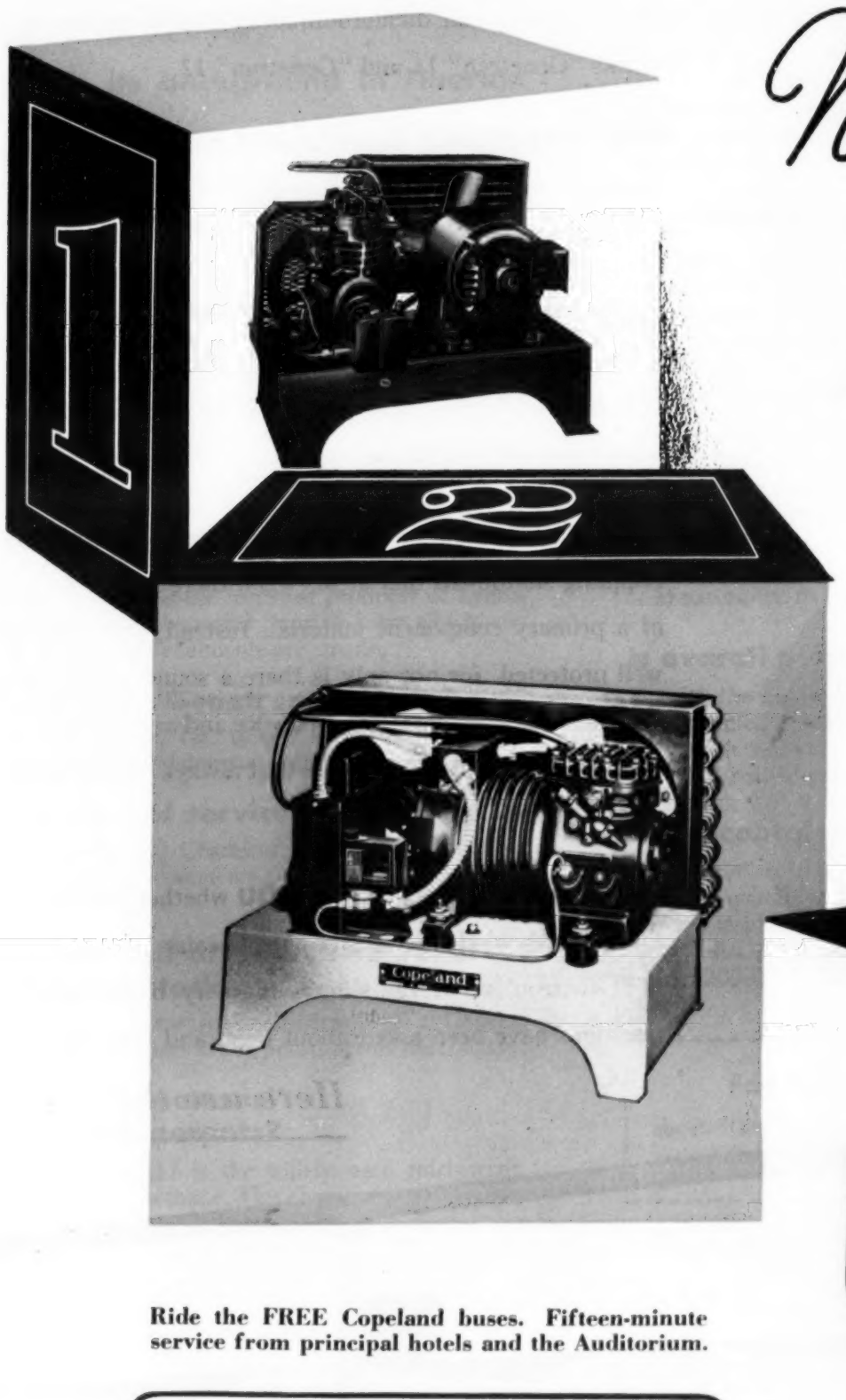
Maximum Refrigeration Efficiency
DOLE
MANUFACTURERS OF
THE Cel LINE

What's BEHIND A TRADITION?

When youngsters line up for a dash across the schoolyard someone is sure to send them on the way with the chant, "One, two, three GO!" This has become the traditional way to start races in America. Yet, like many of our traditions, it traces back to early days in England.

In the 14th Century, silver bells were awarded winners of horse races. This custom stemmed from the fact that lead horses wore bells. From this came the early English nursery rhyme: "Bell horses, bell horses, what time of day? One o'clock, two o'clock, time to away!"

Transported to America the rhyme became, "One for the money, two for the show, three to get ready and four to go!" Later, due probably to the American genius for reducing things to their essential parts, we arrived at "One, two, three, Go!"



Ride the FREE Copeland buses. Fifteen-minute service from principal hotels and the Auditorium.

Now Copeland builds all three

COMPRESSOR TYPES FOR COMPLETE ADAPTABILITY *ONE,* Copeland, belt-driven units for flexibility . . . *TWO,* Copelametic for a hermetic with practical accessibility . . . *THREE,* Copeland welded motor-compressors for extra economy . . . *GO* for a wider market, better acceptance and more money in the till with the practical, diversified saleable line of Copeland refrigeration equipment. You've got the answer to every refrigeration need, the unit for every job when you feature Copeland.

Backed by sound engineering, field-proved dependability, consistent advertising, Copeland gives you more for your money. Get set! Go, with Copeland. You'll see the full line at the show in Cleveland.

1. Dependable Copeland water-cooled, belt-driven units from ⅓ H.P., through 7½ H.P., air-cooled from ¼ H.P., through 3 H.P. Self-contained in all practical sizes.

2. Copelametic, the Accessible Hermetic, is available remote or self-contained. Air-cooled models through 3 H.P., water-cooled through 7½ H.P.

3. Copeland, welded motor-compressors in various sizes for self-contained applications.

Copeland
DEPENDABLE *Electric* REFRIGERATION

COPELAND REFRIGERATION CORPORATION
SIDNEY, OHIO

VISIT US
AT THE SHOW
IN CLEVELAND
BOOTHS
556 - 558 - 560

IMPORTANT FACTS ABOUT

...the great

MANUFACTURERS, WHOLESALERS, SERVICEMEN:

A YEAR AGO, General Chemical announced its entry into the refrigeration and air conditioning field as a primary producer of the two big "work horse" fluorine refrigerants: trichloromonofluoromethane and dichlorodifluoromethane—under the trademarks "Genetron" 11 and "Genetron" 12.

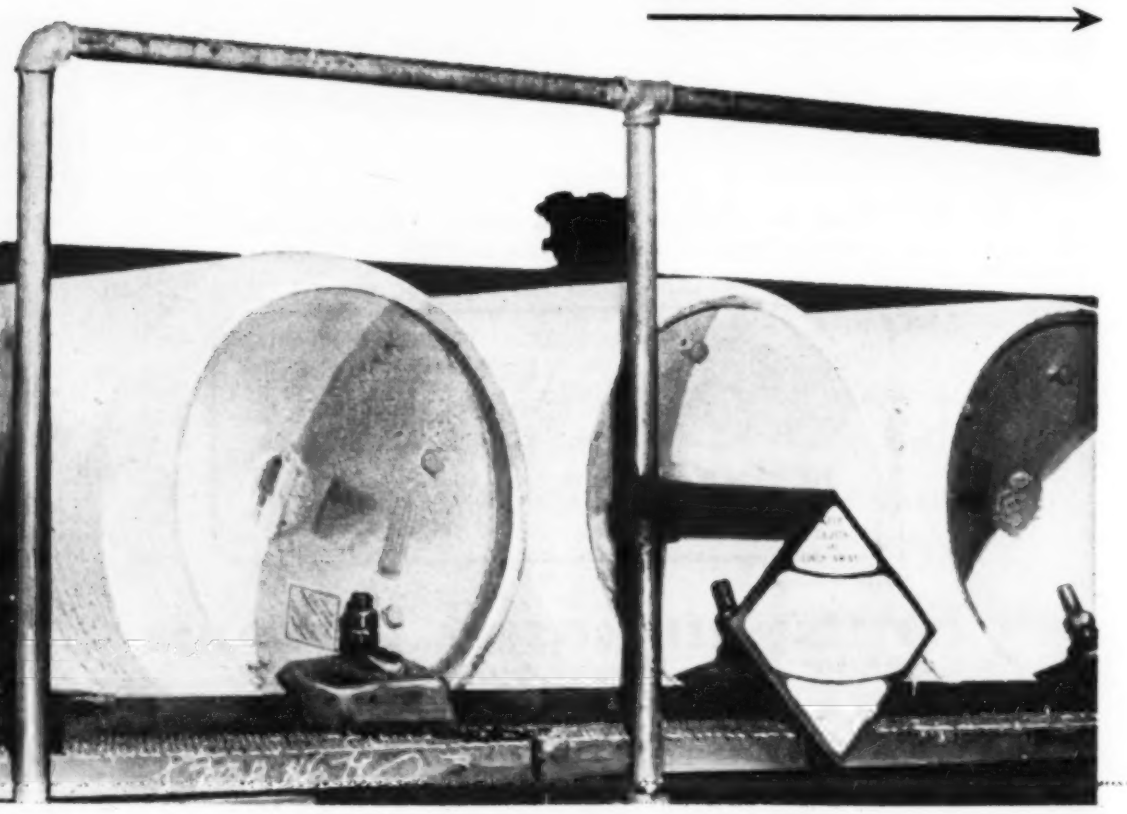
THIS WAS HIGHLY SIGNIFICANT NEWS. Until then, there had been only one manufacturer of these two basic refrigerants which are so essential to the Industry's existence.

WITH THIS SUBSTANTIAL NEW SOURCE, a strong, well-balanced supply exists for the first time. Now there will be sufficient productive capacity to serve all your refrigerant needs —both present and future.

EQUALLY IMPORTANT, you no longer face the hazard of crippling shutdowns that arises when there is a single producer of a primary component material. Instead, your interests are well protected, for not only is there a sound supply situation, but with it has come freedom of choice and assurance of superior product quality and fine service that always follows in the competitive American market.

SUCH FACTS ARE VITAL TO YOU whether you are a manufacturer, wholesaler or serviceman. Because of the importance of "Genetron" refrigerants to the Industry, many sound, logical questions have been asked about them and their producer.

Here are the answers:



genetron® ...

new name in basic refrigerants

HERE IS A MESSAGE OF VITAL INTEREST TO YOU!

Who is General Chemical?

For over fifty years, General Chemical has been one of the nation's largest manufacturers of basic industrial chemicals, including sulfuric and hydrofluoric acids. It has almost 100 producing and operating locations across the country.

What is its background in Fluorine Chemicals?

A pioneer in the field, General Chemical is recognized as Industry's primary source of fluorine chemicals. It makes more than 90 organic and inorganic fluorine compounds for industrial and research applications, including the atomic energy program.

Is it qualified to make products of the high purity required in refrigerants?

Definitely. General Chemical also makes the country's leading line of high purity laboratory reagents and fine chemicals. Under its Baker & Adamson label, it offers over 1,000 such products—all made to meet quality specifications of "decimal point" exactness.

What is its raw materials position?

Ideal. General Chemical not only has its own mines and reserves, but is the foremost producer of hydrofluoric acid and elemental fluorine from which virtually all fluorine chemicals are made.

Where are "Genetrons" made?

At Baton Rouge, La., in one of the newest, most modern fluorine refrigerant plants in America.

What kind of service can I expect?

The best. General Chemical has 27 sales offices in major centers of commerce to serve you and handle your orders.

Does General also have regional warehouse stocks?

Yes. Stocks of "Genetron" refrigerants are at General Chemical warehouses at key points across the country.

Are the "Genetrons" "new" refrigerants?

No. "Genetron" 12 is the widely used refrigerant, dichlorodifluoromethane. This chemical has long been the mainstay of the refrigeration and air conditioning industry. "Genetron" 11 is trichloromonofluoromethane, the second of the big "work horse" fluorine refrigerants.

Are "Genetrons" interchangeable?

Absolutely. "Genetron" 12 and "Genetron" 11 are identical and interchangeable in all respects with dichlorodifluoromethane and trichloromonofluoromethane produced by any manufacturer meeting the same high refrigerant standards.

Are "Genetrons" approved?

Certainly. "Genetron" refrigerants have been tested exhaustively by major manufacturers of refrigeration and air conditioning equipment in their own laboratories and are being used in their equipment.

What about their moisture content?

It's extremely low! General Chemical's special methods for producing "Genetron" refrigerants are so exacting that their quality is consistently better than indicated by these stringent manufacturing specifications:

	"Genetron" 12	"Genetron" 11
Moisture-wt. % max.	0.0010	0.0025

Is overall purity good?

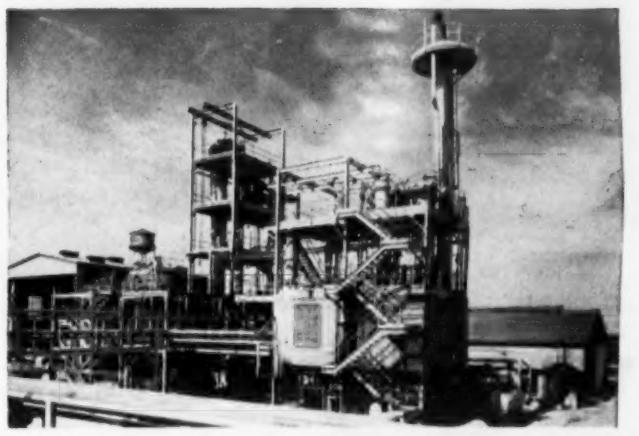
Yes, it's the highest! The "Genetrons" are extremely pure chemicals manufactured to meet quality standards which are in many respects more rigid than those for the purest research chemicals.

What container sizes are available?

"Genetron" refrigerants are offered in the various standard container sizes required by manufacturers and wholesalers. "Genetron" 12 is shipped in 2,000-lb., 145-lb., 25-lb., and 10-lb. cylinders; "Genetron" 11 in 2,200-lb. cylinders and 200- and 100-lb. drums.

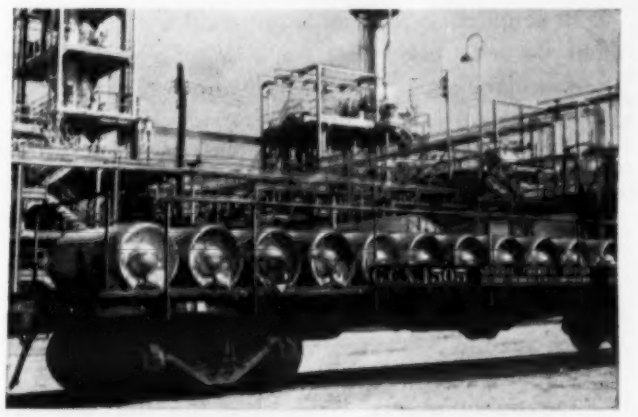
For further information

about "Genetron" refrigerants write or 'phone the nearest General Chemical office listed below.



General Chemical's "Genetron" plant located at Baton Rouge, La., is one of the newest, most modern fluorine refrigerant plants in America.

Section of Process Control Room. Production of fluorine refrigerants is extremely exacting and requires specialized knowledge of fluorine chemistry to produce gases of the high purity necessary for modern refrigeration and air conditioning equipment.



Ton cylinders of "Genetron" 12 ready for shipment. "Genetron" refrigerants are offered in the various container sizes most suited to the needs of refrigeration and air conditioning equipment manufacturers, suppliers and service organizations.

Products of

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo • Charlotte • Chicago Cleveland • Denver • Detroit • Greenville (Miss.) • Houston • Jacksonville • Kalamazoo • Los Angeles • Minneapolis New York • Philadelphia • Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.)
In Wisconsin: General Chemical Company, Inc., Milwaukee

Allied Chemical

America's Foremost Producer of Fluorine Chemicals

Demand IS FOR
CLEANABLE
WATER-COOLED
CONDENSERS
½ to
25-Ton
Capacity
MORE EFFICIENT DOUBLE-TUBE
COUNTER-FLOW DESIGN
"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are cleanable—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.
WHOLESALERS IN PRINCIPAL CITIES
Halstead & Mitchell
BESSEMER BLDG. • PITTSBURGH 22, PA

MORE INFORMATION?
Use Handy Coupon
on "What's New" Page
Use Key No. for fastest service.

Heat Pump Operating Costs Are Competitive In Intermountain Area

SALT LAKE CITY—Cost-of-operation studies conducted here indicate that a heat pump utilizing electricity and air is competitive on a cost basis in the Intermountain area with other forms of energy for heating and cooling homes, according to Utah Power & Light Co.

The studies were made in the home of W. A. Huckins, manager of the utility's business development department.

They show that the net cost of operating the 5-hp. heat pump during one year of winter and summer conditions amounted to $203.24. That figure, it was said, is not too far above the cost of some types of fuel sold in the area for winter-time heating alone.

The heat pump in Huckins' home is a General Electric unit, augmented by auxiliary heat of resistance type in three blocks, located directly in the main air ducts leading to the rooms, and thermostatically controlled.

The cost analysis disclosed that heating charges during the winter varied between $30 and $35. Air conditioning charges during the summer ranged between $1.04 and $3.76.

Predicting that more and more of the units would be installed in new homes in the Intermountain West, Huckins said:

"We feel that the heat pump is an economical device when used for both heating and air conditioning and is competitive on a cost basis on this 'two-cycle' use with homes burning coal, natural gas, or oil in the winter time and employing some type of air conditioning during the summer months."

Utah Power & Light does not merchandise heat pumps but it has been doing extensive research on both air and water-type devices for several years. It is now making a study at Eimco Corp. to determine application of the heat pump principle to industrial operations.

Meeting of New IEEM Set For Nov. 11 In Cleveland

NEW YORK CITY—A meeting of the newly-formed Institute of Environmental Equipment Manufacturers will be held at the Hotel Hollenden in Cleveland Nov. 11 starting at 9:30 a.m., it has been announced.

Members of the group, which has established headquarters at 30 Church St. here, are manufacturers of environmental equipment used for laboratory testing and in manufacturing processes.

Charter members include Alpha Electric Refrigerator Co., Detroit; American Research Corp., Bristol, Conn.; Bemco, Inc., North Hollywood, Calif.; Harris Refrigeration Co., Cambridge, Mass.; International Radiant Co., Port Washington, Long Island; Standard Cabinet Co., Carlstadt, N. J.; Sub-Zero Products Co., Cincinnati; Tenney Engineering, Inc., Newark, N. J.; and Webber Mfg. Co., Indianapolis.

George D. Wilkinson is general manager of the Institute.

THIRTY-SEVEN YEARS and YOU

THIRTY-SEVEN YEARS is a long time. Historians consider it a generation. Many things happen in that length of time to change our lives. The passing years add experience that guides our forward steps.

Since the start of our business, thirty-seven years ago, many changes have taken place at Wolverine. Each has been a step forward—the natural result of experience that has been constantly furnishing the inspiration for us to keep looking ahead in search of better ways of doing things, in order that we may bring you the best tube products that human effort, skill, and modern equipment can provide.

Our efforts are confined not only to the manufacture of such standard products as refrigeration, automotive, water and wet heat tubing, but they are also devoted to finding ways that will aid you in handling the product most efficiently and profitably.

Wolverine also introduced to the industry the individually cartoned coils, which proved a boon to the merchandising and handling of the tube.

The public support we are giving the wholesalers is receiving wide acclaim; and the slogan "Buy From Your Wholesaler" is making its influence felt in all parts of the country. Such merchandising helps as posters, stickers, and other display material that Wolverine has distributed throughout the trade has done much to advance the wholesalers' cause.

Now is a good opportunity to express our appreciation for the wholehearted cooperation being evidenced among wholesalers. And we take this occasion to say "Thank you." We should like to say this to you individually, as we pledge ourselves to continued cooperation in your behalf.

Many new and interesting developments await you at Booth 218—Wolverine's exhibit at the Eighth All-Industry Exposition. Be sure to stop in.

WOLVERINE TUBE DIVISION
of CALUMET & HECLA, INC.
ESTABLISHED 1916
Manufacturers of Quality-Controlled Tubing
1413 CENTRAL AVENUE • DETROIT 9, MICHIGAN
MILL DEPOTS: DETROIT, MICH. • DECATUR, ALA. • PHILADELPHIA, PA. • PROVIDENCE, R.I. • ST. LOUIS, MO. • CHICAGO, ILL. • HOUSTON, TEXAS • LOS ANGELES, CALIF. • LONG ISLAND CITY, N.Y. •
EXPORT DEPT., 13 E. 40th ST., NEW YORK 16, N. Y.

Master Program Lists Industry Show Events

Friday, Nov. 6

10 a.m.—Refrigeration Service Engineers Society board of directors meeting, Carter hotel.

Saturday, Nov. 7

8 a.m.—Registration begins for Refrigeration Service Engineers Society in Grand Ballroom, Carter hotel.

1 to 7 p.m.—Registration for Refrigeration Equipment Wholesalers Association on mezzanine in Cleveland hotel.

1 p.m.—General business session, Refrigeration Service Engineers Society in Grand Ballroom, Carter hotel.

All Day—Refrigeration Equipment Wholesalers Association board of directors meeting at Cleveland hotel.

Sunday, Nov. 8

9 a.m. to 6:30 p.m.—Registration for Refrigeration Equipment Wholesalers Association on mezzanine, Cleveland hotel.

9 a.m. to 5 p.m.—General business session of Refrigeration Service Engineers Society in Grand Ballroom, Carter hotel.

9 a.m.—Registration for Refrigeration and Air Conditioning Contractors Association on mezzanine, Carter hotel.

9:30 a.m.—Refrigeration and Air Conditioning Contractors Association board of directors meeting in Aviation Room, Carter hotel.

10 a.m.—Air-Conditioning and Refrigeration Institute board of directors meeting in Hollenden hotel.

12 Noon—Refrigeration Equipment Wholesalers Association Kickoff luncheon in Ballroom of Cleveland hotel. Followed by Keynote speaker and "Wholesale vs. Manufacturer" panel discussion open to invited guests.

12:30 p.m.—National Commercial Refrigerator Sales Association annual luncheon meeting of board of directors in Tavern Room, Statler hotel.

1 p.m.—Refrigeration and Air Conditioning Contractors Association board of directors meeting in Aviation Room, Carter hotel.

2 to 8 p.m.—Registration for National Commercial Refrigerator Sales Association in Euclid mezzanine, Statler hotel.

3:45 to 5 p.m.—Refrigeration Equipment Wholesalers Association business meeting for members only in Ballroom, Cleveland hotel.

6:30 p.m.—Refrigeration Equipment Wholesalers Association officers reception in Red Room, Cleveland hotel.

7:30 p.m.—Refrigeration Equipment Wholesalers Association annual banquet in Ballroom, Cleveland hotel.

7:30 p.m.—Refrigeration Service Engineers Society annual banquet in Rainbow Room, Carter hotel.

(No time given)—Refrigeration and Air Conditioning Contractors Association registration and board of directors meeting in Carter hotel.

Monday, Nov. 9

8 a.m. to Noon—Registration for Refrigeration Equipment Wholesalers Association on mezzanine in Cleveland hotel.

8:30 a.m.—"Kickoff Breakfast" for exhibitors at Hollenden hotel.

8:45 a.m.—Registration for National Commercial Refrigerator Sales Association on Euclid mezzanine, Statler hotel.

9 a.m. to 12:30 p.m.—Circular discussion and round table for Refrigeration Equipment Wholesalers Association members only in Ballroom, Cleveland hotel.

9 a.m. to Noon—General session, Refrigeration Service Engineers Society in Grand Ballroom, Carter hotel.

9 a.m.—Registration for Refrigeration and Air Conditioning Contractors Association on mezzanine, Carter hotel.

9:30 a.m. to 5 p.m.—General session of Refrigeration and Air Conditioning Contractors Association, Petite Cafe, Carter hotel.

10 a.m. to 3 p.m.—General session of National Commercial Refrigerator Sales Association in Pine Room, Statler hotel.

2 p.m. to 10 p.m.—Eighth All-Industry Exposition, Cleveland Public Auditorium.

6 p.m.—National Commercial Refrigerator Sales Association reception, Pine Room, Statler hotel.

6:30 p.m.—Refrigeration and Air Conditioning Contractors Association cocktail party, Petite Cafe, Carter hotel.

7 p.m.—National Commercial Refrigerator Sales Association annual dinner, Euclid Ballroom, Statler hotel.

Tuesday, Nov. 10

9 a.m.—Business meeting of Refrigeration Service Engineers Society, Grand Ballroom, Carter hotel.

9:30 a.m.—General session of National Commercial Refrigerator Sales Association in Pine Room, Statler hotel.

9:30 a.m.—Closed membership meeting of Refrigeration and Air Conditioning Contractors Association in El Rancho Room, Carter hotel.

10 a.m. to 6 p.m.—Eighth All-Industry Exposition, Cleveland Public Auditorium.

1 p.m.—Open meeting of Refrigeration and Air Conditioning Contractors Association, Ballroom, Carter hotel.

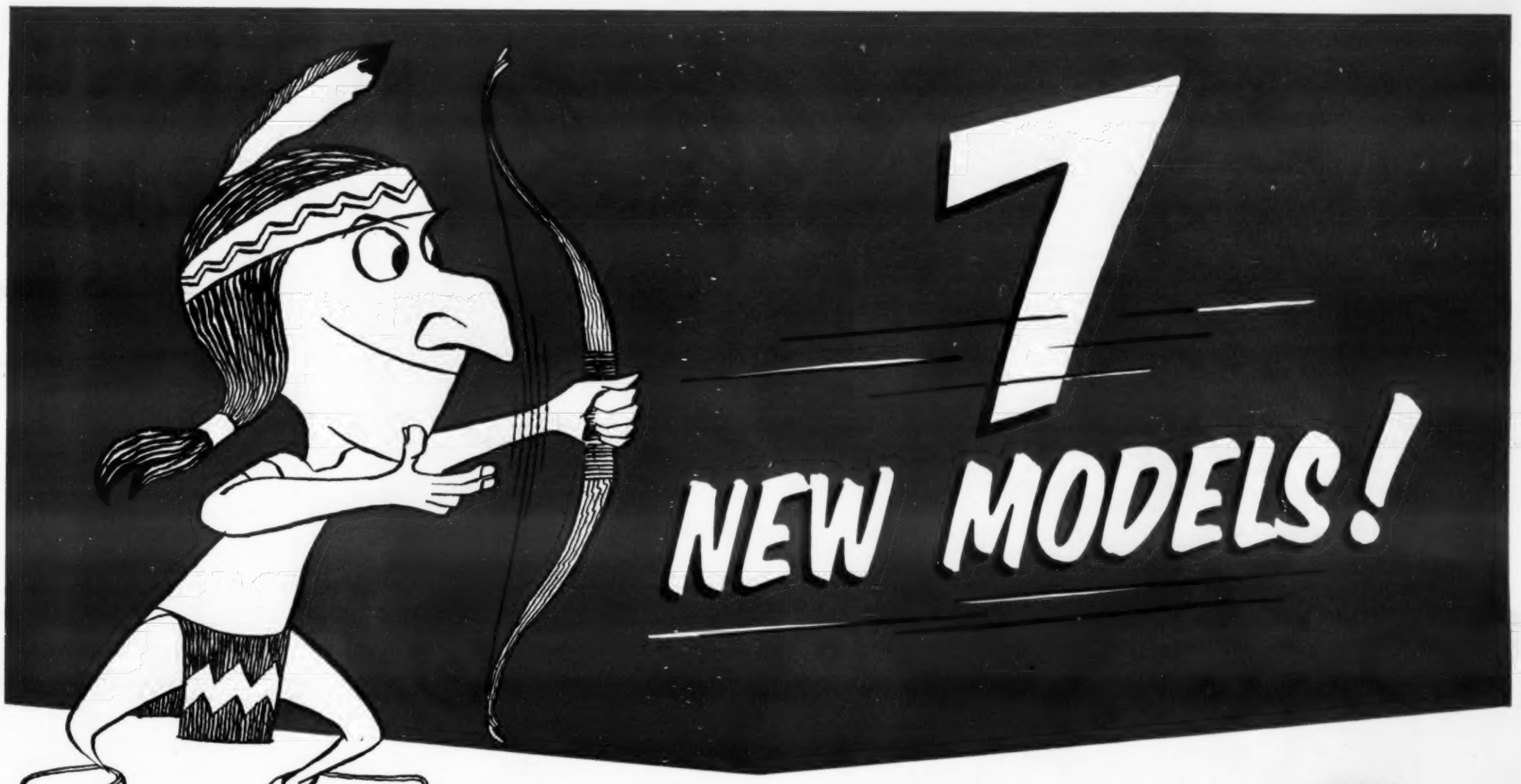
Wednesday, Nov. 11

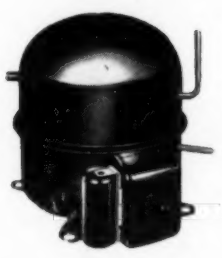
9:30 a.m.—Institute of Environmental Equipment Manufacturers meeting, Hollenden hotel.

10 a.m. to 6 p.m.—Eighth All-Industry Exposition, Cleveland Public Auditorium.

Thursday, Nov. 12

10 a.m. to 4 p.m.—Eighth All-Industry Exposition, Cleveland Public Auditorium.

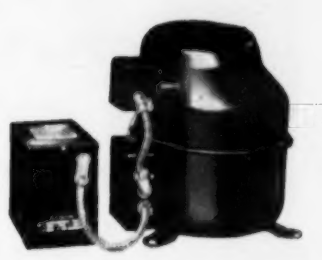




1 **FOR ROOM AIR CONDITIONERS MODEL S7R16**—A new ¾ h.p. internally spring mounted single cylinder compressor. Features substantial cost reduction by eliminating vibration loop in tubing. External springs eliminated to allow easier shipping and permit solid bolting to base of cabinet.

2 **FOR HOUSEHOLD REFRIGERATORS MODELS P91, P6112**—New ⅛ and ⅙ h.p. pancake compressors. Cover most household applications. Quieter operating, with increased capacities. Permit standardization of cabinet design for most household refrigerators with resulting production economies.

3 **FOR AUTOMOTIVE AIR CONDITIONING MODEL H**—A new twin-cylinder, high-speed, heavy duty 1½ ton compressor specially designed for this application. Will fit all current car models. Rotating parts dynamically balanced to reduce vibration. May be mounted either horizontally or vertically, right or left hand side.



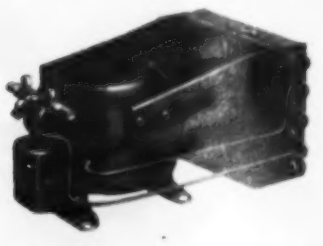
4 **FOR COMMERCIAL APPLICATIONS AND YEAR-AROUND AIR CONDITIONING MODEL HD300 (ILLUS.)**—A new line of twin cylinder integral h.p. hermetics, internally spring mounted and built for ¾, 1, 1½, 2 and 3 h.p. applications. All heavy duty to handle larger commercial applications and residential year-around air conditioning. 1½, 2 and 3 h.p. available for 3 phase.

5 **FOR AIR CONDITIONING MODEL B32P16**—A new 1½ h.p. externally spring mounted twin cylinder compressor. Continues line that begins with ½ h.p. model. Extremely quiet operation. General construction features have proven themselves in smaller size air conditioning applications. Costs savings over the 1½ h.p. internally mounted compressor.

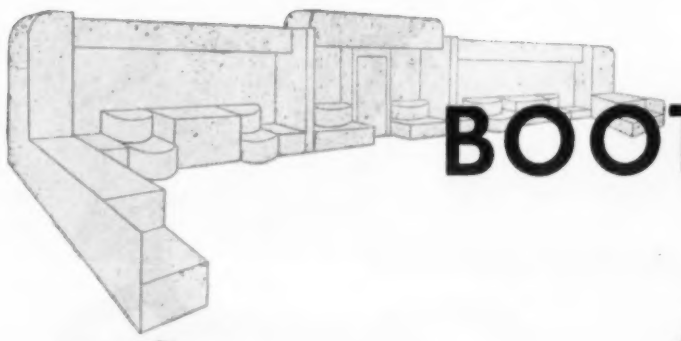
You'll see them at the Cleveland show

7 New Tecumseh Compressors and condensing units!

6 **FOR REFRIGERATOR REPLACEMENTS MODEL S8BLE**—New ⅛ and ⅙ h.p. adjustable slant, static units. Slant can be adjusted to four different positions for maximum flexibility . . . allowing minimum inventories. Adjustable feature permits use in a variety of existing cabinets using static condenser.



7 **FOR FREEZERS MODEL S4814AP**—Baseless highside units in ¼ and ⅓ h.p. sizes. Cost reduced by mounting condenser and fan motor directly to compressor. New type of wire and tube condenser for quieter overall operation. New condenser less likely to trap dirt; thus, higher efficiency.



BOOTH 600-604

Tecumseh

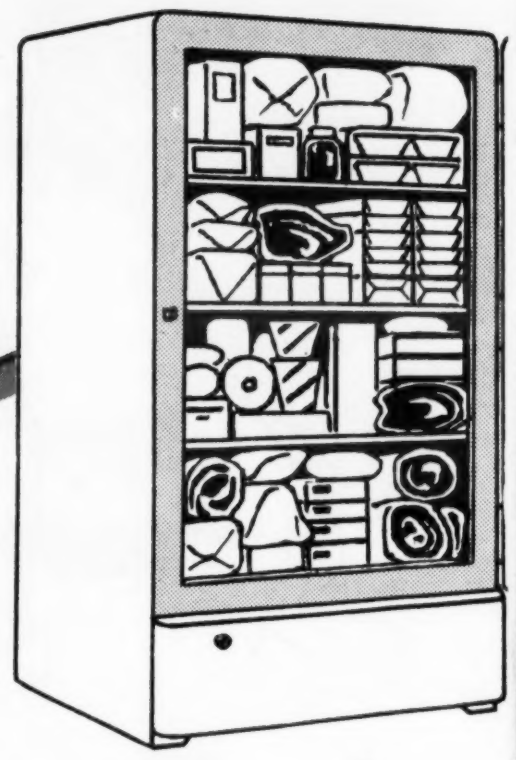
TECUMSEH PRODUCTS
TECUMSEH, MICH. Company

EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICHIGAN

TECUMSEH

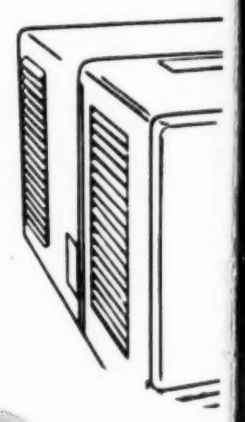
● Victor 25 cu. ft. chest-type quickfreezer—sturdy steel construction, heavily insulated. Double lids for easy accessibility.

Go to MARKET *with a* LINE FOR SALES FEAT



● 19 cu. ft. Victor Upright holds 650 lbs. of Food! (Available with Inner Shelf Doors at slight additional cost.)

● VICTOR WALK IN ROOMS. May be made any practical size—with or without service doors or windows.



● Victor Room Air Conditioner with exclusive "3 Dimensional" Cooling and Push Button Control! The most talked about room cooler in America.

A GREAT PROMOTIONAL LINE

No slow movers...No unknown items

—No shelf hugging gimmicks—

No tie-in *Musts*—VICTOR offers

you a line of Freezers, Dehumidifiers,

and Room Air Conditioners

that are leaders in QUALITY—in DEPENDABILITY

—in PROVED PERFORMANCE—and

in VALUE—Ready to produce sales

and profits for you—Write today or see us

at the 8th All-Industry Show in Cleveland.

Victor

All VICTOR PRODUCTS ARE UNSURPASSED IN

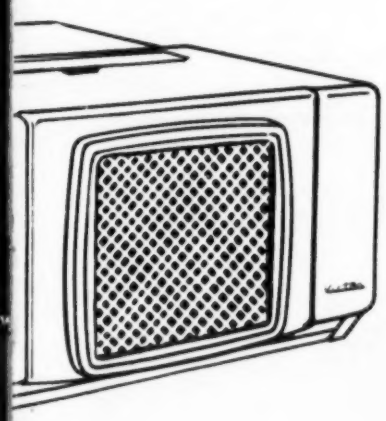
that TOPS *all* *Competition*

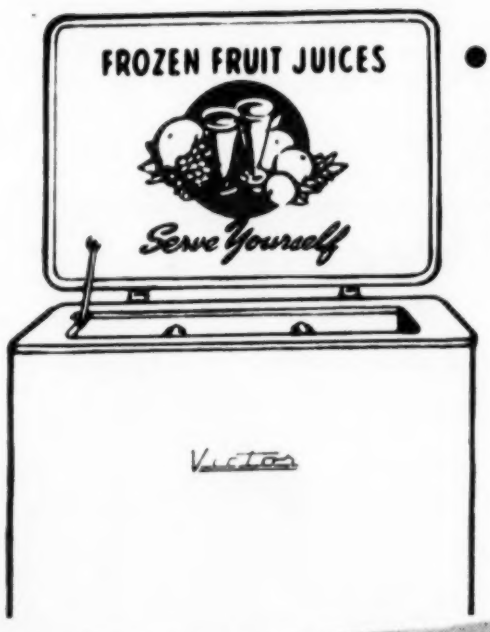
URES • EFFICIENCY FEATURES • PROFIT FEATURES

● Victor chest type *Quickfreezer* . . . 8, 10, 14, 19, 21.5 & 25 cu. ft. sizes!

● Victor Reach in Refrigerators. Ideal for regular commercial uses and for Estates, Clubs, Institutions, Laboratories, Biologicals, Farms, Blood Banks, etc.

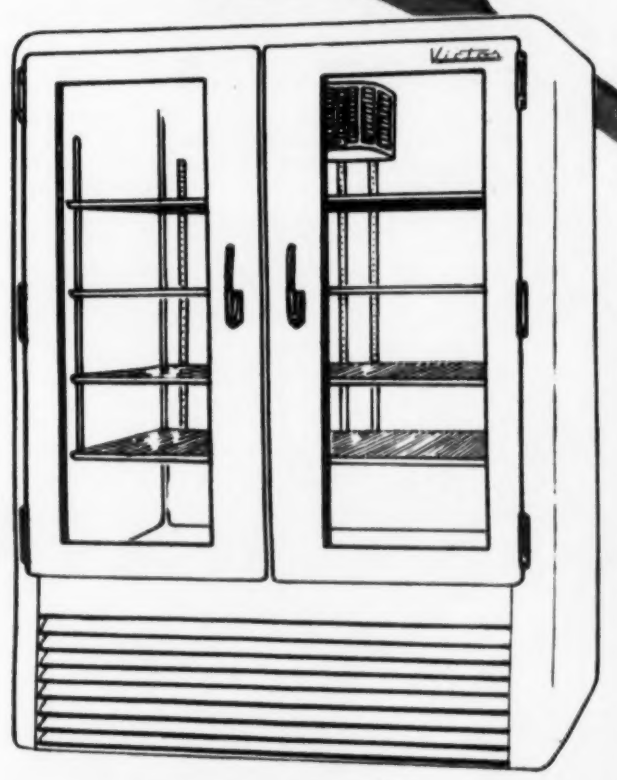
● Victor "B" Beverage Coolers — handles peak volume easily — cools quickly, safely — delivers drinks cooled properly with labels intact.

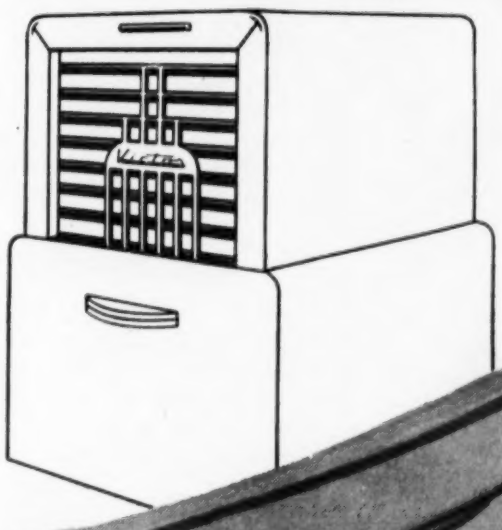




● Victor FROZEN FOOD MERCHANDISERS— Designed for eye-appeal and sales effectiveness. Night lids and superstructure. Self contained units. Mobile for island and spot display.

● Victor Dehumidifier . . . removes excessive moisture (dampness) and prevents rust, mildew, and corrosion.





Products Corporation

HAGERSTOWN, MARYLAND

A FUNKHOUSER INDUSTRY

PERFORMANCE, ECONOMY AND VALUE . . .

Commercial Refrigeration

Modern Self-Serve Coolers Seen as Aid to More Profitable Beverage Merchandising

HAGERSTOWN, Md. — Modern beverage coolers offer excellent opportunity for profitable merchandising of soft drinks and beer, according to W. L. Currie, chief sales engineer of Victor Products Corp. here.

In recent talks on Victor's beverage cooler line Currie has told dealers:

"I have witnessed spectacular sales increases when these coolers or merchandisers are installed at a location in self-service stores where the public can readily select the cold bottles themselves.

"Up until lately it has been customary for self-service stores to stack their beverages near the paying counter, no serious attempt being made to display it appetizingly. However, with the introduction of the "B" type beverage cooler by Victor Products many stores are using this merchandiser as a means of tremendous increases in sales.

"When traffic through a store is heavy, such as may be experienced on their mid-week open night or Saturday evening, the lids are left in open position to permit the public to readily take out their requirements of cold cokes or other beverages.

"However, this is not the only application of this new type beverage cooler that has been approved by health authorities throughout the country and used extensively in such places as hospitals, cafeterias, restaurants, road side stands and bars.

"By the way, the last mentioned name 'bars' is proving to be one of the most lucrative outlets for the soft drink beverage industry. In fact, in Chicago the sale of Coca-Cola, or Seven-Up over the bar is almost equal to the sale through grocery stores. However, I am sure that you are as well aware of this information as I am and the outlets that can purchase beverage coolers and sell drinks," Currie said.

"I want to give you a few figures on the cost of beverage merchandisers through the last five years because I believe these figures will convince you that you are working with an industry which is eager to follow the lead of the beverage industry in maintaining quality and quantity at a price the American public can support.

"In 1948 and 1953 the prices of the Victor "B" beverage coolers were as follows:

	1948	1953
B-12	538	547
B-22	627	642
B-32	799	795

"The quality of the product and the cooling capacity was steadily improved although the price was maintained almost constant and despite the fact that the component parts and wages increased about 22%.

"Other industries did not match the beverage or refrigeration industry achievements. For example, autos jumped almost 40% in price while food, rents, and many of the other essentials of life went up even higher. What does this investment, from now on I intend to refer to it as a money-making investment, give to the owner of a beverage merchandiser.

"Let's re-quote a few figures here on what a user of a beverage merchandiser could expect in one year's operation. Here, for example, we have the B-12, 22, and 32, and I have outlined the pertinent facts on the cost of the merchandiser, the operational cost, the rental space of the area it occupies, the manpower to serve it and the amortization of the cost throughout a year's period and if just one loading per day can be sold it will show a net profit.

"Gentlemen, this is terrific business and these figures are not something pulled from the air but the actual cost and profit of this investment that anyone in a position to sell beverages, soft or otherwise, can make on a Victor beverage merchandiser," Currie declares.

Service Firm Files Name

BUFFALO—A business name has been filed in the Erie County clerk's office for Buffalo Refrigeration Service, 107 Broadway, by Payson Cobe.

Profit Picture Resulting from Handling Beer, Soft Drinks In Modern Cabinets

Beer Merchandising Profits

	B-12	B-22	B-32
Unit hp.	¼	⅓	½
12-oz. Cases	12	22	32
Bottles	288	528	768
Profit on full load sales per day (307 days year) @ 5¢ per bottle	$ 14.40	$ 26.40	$ 38.40
Yearly gross profit	$4,420.00	$8,104.00	$11,788.00
Cost of operation & purchase—3¢ per kwh. & 10 years amortisation			
Daily cost at retail level	18¢	21¢	26¢
Power consumption kwh.	5.2	8.7	12.
Power cost @ 3¢ kwh.	15¢	26¢	36¢
Daily cost total	33¢	47¢	62¢
Floor area rent, manpower, cost, service interest, etc	617	987	1,325
Yearly cost of operation & amortisation	95	141	187
Total	712	1,128	1,512
Gross profit (yearly)	4,420	8,104	11,788
Net profit	3,708	6,976	10,276
Cooling cost per case	1.3¢	1.2¢	1.1¢

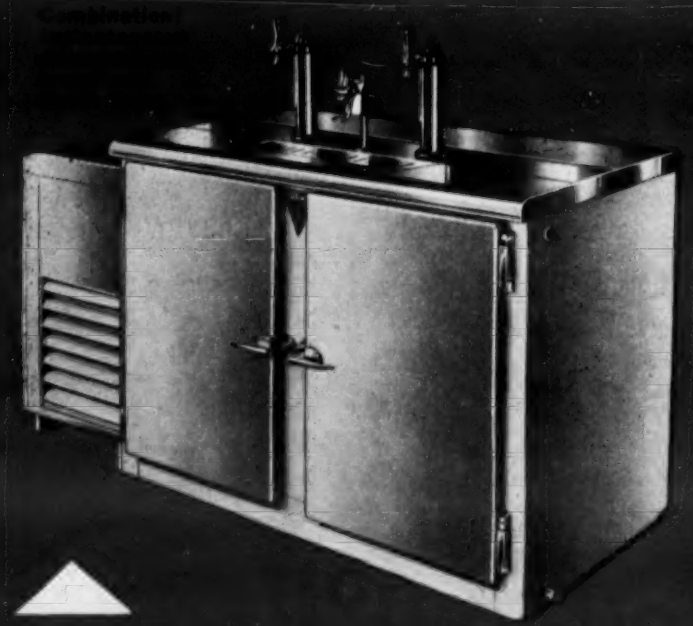
Pepsi-Cola Merchandising Profits

	B-12	B-22	B-32
Unit hp.	¼	⅓	½
Pepsi 8-oz. cases	336	624	912
Profit on full load sales per day (307 days) 2¢ per bottle profit	$ 6.72	$ 12.48	$ 18.24
Yearly profit	2,060.00	3,830.00	5,600.00
Cost of operation and purchase— 3¢ per kwh. & based on 10 years amortisation at retail price	18¢	23¢	26¢
Power consumption	5.2	8.7	12
Power consumption	5.2	8.7	12
Power cost @ 3¢	15¢	26¢	36¢
Daily cost total	33¢	47¢	62¢
Floor area rent, manpower, service, and interest, etc	617	987	1,325
Yearly cost of operation & amortisation of principle	95	141	187
Total	712	1,128	1,512
Yearly net profit	1,348	2,702	4,088
Cooling cost per case	.011	.01	.009

Coca-Cola Merchandising Profits

	B-12	B-22	B-32
Unit hp.	¼	⅓	½
Cases	17	31	45
Bottles	408	744	1,080
Profit on full load sales/day (307) 2¢ per bottle profit	$ 8.16	$ 14.88	$ 21.60
Gross yearly profit	2,500.00	4,570.00	6,630.00
Cost of operation and purchase based on 10 years amortisation & 3¢ kwh. per day	16½¢	20¢	25¢
Power kwh.	5.0	8.7	12.1
Power cost @ 3¢	15¢	26¢	36¢
Daily cost total	31¢	46¢	61¢
Floor area cost, manpower, service, and interest, etc	617	987	1,325
Yearly cost of operation and amortisation of principle	95	141	187
Total	712	1,128	1,512
Yearly profit	$1,788.00	$3,442.00	$ 5,128.00
Cooling cost per case	.01	.009	.008

YOU'RE LOOKING AT THE EASIEST SELLING BEVERAGE COOLERS IN THE INDUSTRY



No matter how warm the beer is on delivery, draw glass after glass of cold beer while the contents of the barrel are being cooled. Equipped with refrigerated faucets and famous Arctic-Fin Evaporator for trouble-free service.

Want to sell more in '54? Sell IDEAL. Inquire about the profitable IDEAL franchise.

Speed-Freeze PRODUCTS

IDEAL COOLER CORPORATION
2953 Easton Ave. St. Louis 6, Mo.
Builders of America's Largest Capacity Beverage Coolers

Walk-In Freezers

Pictured here is our Super-Deluxe Walk-In Freezer with Loudon's self-contained panel unit. Price with 6" insulation, $1.35 per sq. ft. . . . and with 8" insulation, $1.78 per sq. ft.

Also available are Loudon's standard walk-in cooler with full marine plywood door at $1.10 per sq. ft., and deluxe walk-in cooler at $1.22 per sq. ft.

For the Best Buys in Walk-Ins, Contact

Loudon
MFG. & SALES INC.
2524 27th Avenue South
Minneapolis 6, Minn.

ANNOUNCING THE SILVER ANNIVERSARY LINE OF FRIGIDAIRE ROOM CONDITIONERS

Here's the Silver Anniversary Room Conditioner . . . newly styled and wearing its glamorous new Coca-Rio Beige color that must be seen to be appreciated. Here is breath-taking beauty that sells on sight.

And there's a size and model for every room . . . every budget. The ⅓ hp SUPER 33—the ½ hp SUPER 50—the ¾ hp TWIN 75 and the 1 hp TWIN 100.

Each of these models can be offered with a thermostat where local codes permit. Twin Models are available for 115 or 230 volt current—with or without heating feature. Thus Frigidaire Dealers actually have 10 models to sell. Each model is priced competitively and all models are designed to give Frigidaire Dealers the edge over competition in 1954.

Frigidaire celebrates its 25th year of manufacturing Room Air Conditioners with the greatest sales-winning line in history

Paying off a quarter-century of air conditioning experience—Frigidaire, developer and builder of the world's first Room Air Conditioner—now introduces its finest line of new models—the Silver Anniversary Line. Arrayed with a host of new selling features and packed with consumer-benefit exclusives, here is the line which will put Frigidaire Dealers out in front in the highly competitive sales year ahead.

New Styling—New Features

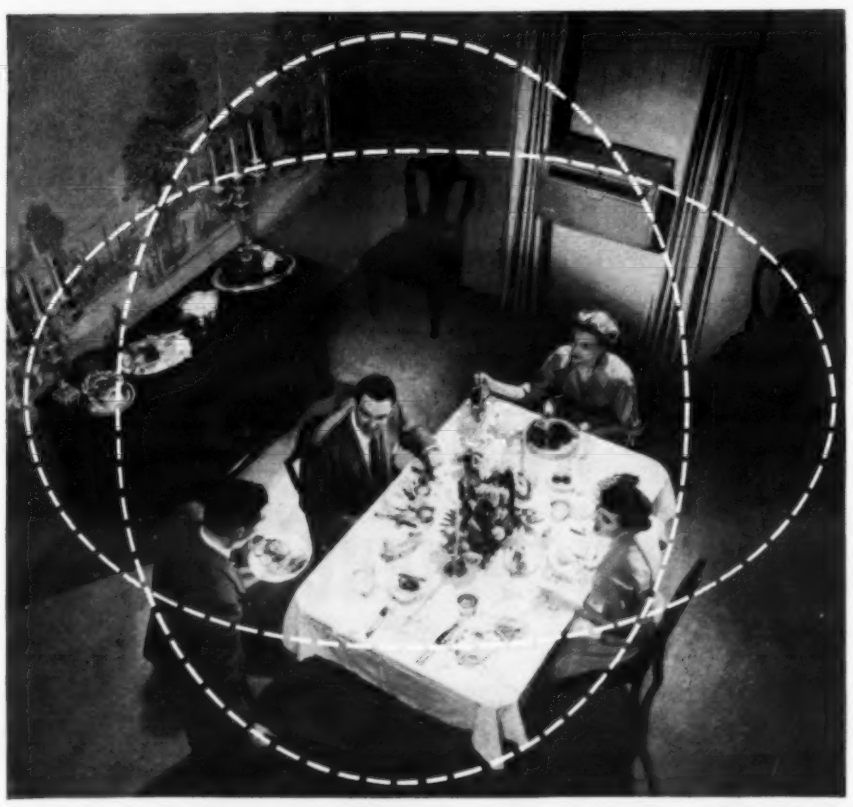
There's brilliant new eye appeal in every model—in the clean, trim lines, the decorator color tones, tastefully highlighted with gold and plastic. There's plenty of extra buy appeal too, with features like High-flow Heat, positive instantaneous warmth whenever it is needed for 4-season comfort. Heating system, optional on Twin Models, is independent of cooling—incorporates many operating and safety advantages.

Automatic Operation

Every one of the Silver Anniversary models can be converted to fully automatic operation with a simple, 5-minute thermostat installation (where local codes permit). This means a profitable "step-up" sales opportunity—or allows the buyer the option of adding thermostat later. Twin 75's and Twin 100's also can be purchased with thermostats installed at the factory.

Built to last by a company that's bound to last

Over 2,500 makes of autos have been sold in the U. S. . . . today there are but 17! Today the room air conditioner manufacturers number about 73 and no one knows how their ranks will be depleted in just a few short years. Frigidaire Room Air Conditioners—built and backed by General Motors, are now in their 25th year . . . they are made by the makers of America's No. 1 refrigerator...by the makers of over 16,000,000 refrigerating units.



GREAT CIRCLE COOLING provides complete room comfort that customers are looking for, and get only in a Frigidaire Room Air Conditioner.

Greatest combination of Sales Features offered in any Air Conditioner

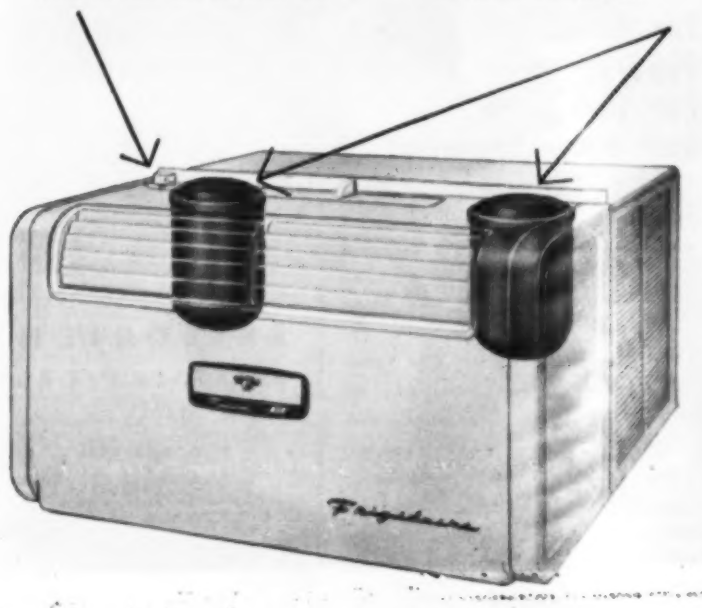
Armed with a double-barrelled exclusive feature story, Frigidaire Dealers are shooting for the largest share of this exciting, rapidly skyrocketing market. Frigidaire's unique, exclusive Twin Meter-Misers, by far the industry's most outstanding consumer benefit, lead the spectacular room conditioner feature parade. It's just like having two air conditioners in one. This feature wraps up the benefits of flexibility, comfort and economy.

And Frigidaire's Great Circle Cooling provides air circulation tailored exactly to any room—regardless of window location. Both these features are exclusive with Frigidaire . . . both can be demonstrated . . . both have been registered deeply on the public. Both will receive nearly twice the coverage in 1954 ads and promotions. Additional selling features include sturdy, all-steel cabinets heavily insulated for utmost quiet, extra-large cooling coils for reserve cooling and dehumidifying, and the full-width, full-height filter for positive removal of dirt, dust and pollen.

Like Having Two Air Conditioners in One

ONE cooling system operates in moderate weather for complete cooling, filtering, circulation, ventilation and dehumidifying at half the electric bill.

TWO cooling systems team up to double cooling power economically when temperatures soar. No risk of undercooling . . . no risk of overcooling.



Frigidaire Conditioners

BUILT AND BACKED BY GENERAL MOTORS

Frigidaire Division of General Motors, Dayton 1, Ohio

What To See at the Show

Advance Information on New Products, Models To Be Displayed, Location of Booths at the 8th All-Industry Show

On this page and pages 15, 20, and 21 can be found brief "previews" of exhibits at the All-Industry Show. Manufacturers covered in the preview are those from whom information was made available prior to Show time.

Though these highlights are primarily for Show visitors who want to plan their itinerary, those who cannot attend will find much valuable information on products soon to reach the market and special items of interest to their particular fields.

A-P Controls Corp. 706
Working exhibit of model 65 water regulating valve and model 235 evaporator pressure regulator valve. Automobile air conditioning unit—and possibly an air conditioned automobile in operation.

Acme Industries, Inc. 512
First showing of model FTV "Flow Temp" heat pump, "Flow-Therm" flexible package liquid chiller, JCT "Flow-Cold" cooling towers, and improved "Flow-Temp" remote room cooler.

Air Controls, Inc. 575
Air conditioning blowers and component parts, propeller fans on display.

Ajax Corp. of America 618
Ice flake machine will produce flake ice and drop it into illuminated display bin. Pebble ice maker, "Electric Ice Man" ice cuber, and "Roomaster" air conditioner will be shown.

Alco Valve Co. 516, 517
Operating demonstration of new reversing valves for heat pumps and hot gas defrost. Visual scientific demonstration of refrigerant distribution. New types of solenoid valves, new thermo expansion valve construction, and new straight through flanged type thermo valves.

Allen-Bradley Co. 733, 735, 737
Motor starter with overload relays to protect hermetically sealed motors. Special panels combining motor starters and pressure and temperature switches.

Allied Chemical & Dyex Corp. (General Chemicals Div.) 741
First public showing of "Genetron" line of basic fluorine refrigerants, Genetron-11, Genetron-12.

American Air Filter Co., Inc. (Amer-Glas Div.) 919
An air conditioning unit with throwaway type filters; pads and rolls of "Amer-glas Fiber-Media" for air conditioning units. Samples available.

American Brass Co. 726
Copper and aluminum refrigeration tube, restrictor tube, formed parts, flexible metal hose and tubing, and vibration eliminators.

American Emblem Co. 922
Latest designs in decorative trim and name plates for air conditioning and refrigeration.

Aminco Refrigeration Products Co. 116
Improved and enlarged line of compressor suction throttling valves for hot gas defrost operations and refrigerated trucks. Oil separators, high-side floats, constant pressure valves, etc.

Ansul Chemical Co. 562
Preview of new moisture indicator, "T-Flo" refrigerant driers. Two refrigeration systems with glass compressors, evaporators, and driers; one is wet and dirty, the other clean.

Arrow-Hart & Hegeman Electric Co. 837
New type "G. T. Quick Trip Heater" for air conditioning motors of hermetic type. Complete line of manual and magnetic controls and accessories.

Automatic Firing Corp. 582
Brand new 3-ton air or water-cooled "Cool-A-Matic" residential air conditioner. 1954 line of Cool-A-Matic room and packaged air conditioners, "Fridg-A-Fire" combination heating-cooling unit.

Automatic Machine Products Co. 581
First showing of steel shut-off valves for automotive air conditioning systems. Complete line of steel shut-off valves for all refrigeration applications.

Bally Case & Cooler Co. 324, 328
Animated display to demonstrate superiority of porcelain finish over paint, baked enamel. Most important styles of Bally cases.

Baltimore Aircoil Co., Inc. 129
Scale models of evaporative condensers and cooling towers plus two production models.

August G. Barkow Mfg. Co. 843
New 2-ton ceiling or attic type air conditioner and 5-ton commercial unit. Also "Weatherwise" CU-3 and 3-ton furnace model air conditioner for forced air heating systems.

Barr Mfg. Co. 566
Three-door "Servue" assembly (three patented glass refrigerator doors with frame) set up on special display stand and 60 cu. ft. reach-in with "Servue" doors.

Bell & Gossett Co. 408
Line of small tonnage shell and tube condensers up to 10 tons, liquid gas heat exchangers, operating centrifugal pump display, and standard line of mechanically sealed centrifugal pumps, condensers, and water chillers.

Binks Mfg. Co. 583
Glass sided 3-ton residential type cooling tower showing water and air travel. Complete assortment of nozzles for air washing and humidifying.

Bohn Aluminum & Brass Corp. .. 701
Domestic refrigerator evaporators, freezer plates, dehumidifier evaporators, and air conditioning evaporators and condensers.

Bonney Forge & Tool Works 222
New fork-wedge separator for removing pulleys in limited space, Sporlan expansion valve wrench to remove power element from body, valve stemp socket for Frigidaire valves. Also complete line of special refrigeration tools.

Brewer-Titchener Corp. 829
Complete new line including ice cream and frozen food display cases, milk and dairy merchandisers, cold beer cabinet, ice cube maker, and blood bank.

Brunner Mfg. Co. 510, 511
New "Brunner-Metic" semi-hermetic refrigeration unit including cutaway model with plexi-glass cover, also model that can be hand turned. Air and water-cooled condensing units using new compressor. New 7½-hp. two stage integral refrigeration unit. New 15 and 20-ton self-contained air conditioning units.

Bryant Heater Div., Affiliated Gas Equipment, Inc. .. 831
Introducing the new "Command-Aire Twins," duct summer air conditioner, and window type room cooler.

Bundy Tubing Co. 621
Continuous coils of "Bundyweld" steel tubing 2,000 to 4,000 ft. long. Strainer assemblies mounted integrally with condenser tube coils. Various types of refrigeration condensers and evaporators featuring use of Bundyweld steel tubing.

Bush Mfg. Co. 508
Operating display of Inner-Fin coils. New residential cooling tower, unit cooler, air handling unit, evaporative condenser, and under-the-window unit for year-round air conditioning.

Carbonic Dispensers, Inc. 836
Displaying new model R35 remote "Sodamaster" beverage dispensing system, supercharger carbonator model B, and other self-contained models.

Carver Pump Co. 571
New small line of centrifugal pumps for cooling towers and evaporative condensers. Display of end suction and horizontal split case centrifugal pumps.

Century Electric Co. 912
A 3-speed fractional horsepower motor, cutaway model of Form F rerated fractional horsepower motor, cutaway of new integral horsepower parallel type gear motor, demonstration unit of splash-proof motors for cooling towers, and complete line of hermetic motors.

Chemical Solvent Co. 332A
Operating demonstration of "Solvex" chemical cleaner for cooling towers and graphic demonstration of Solvex maintenance formula

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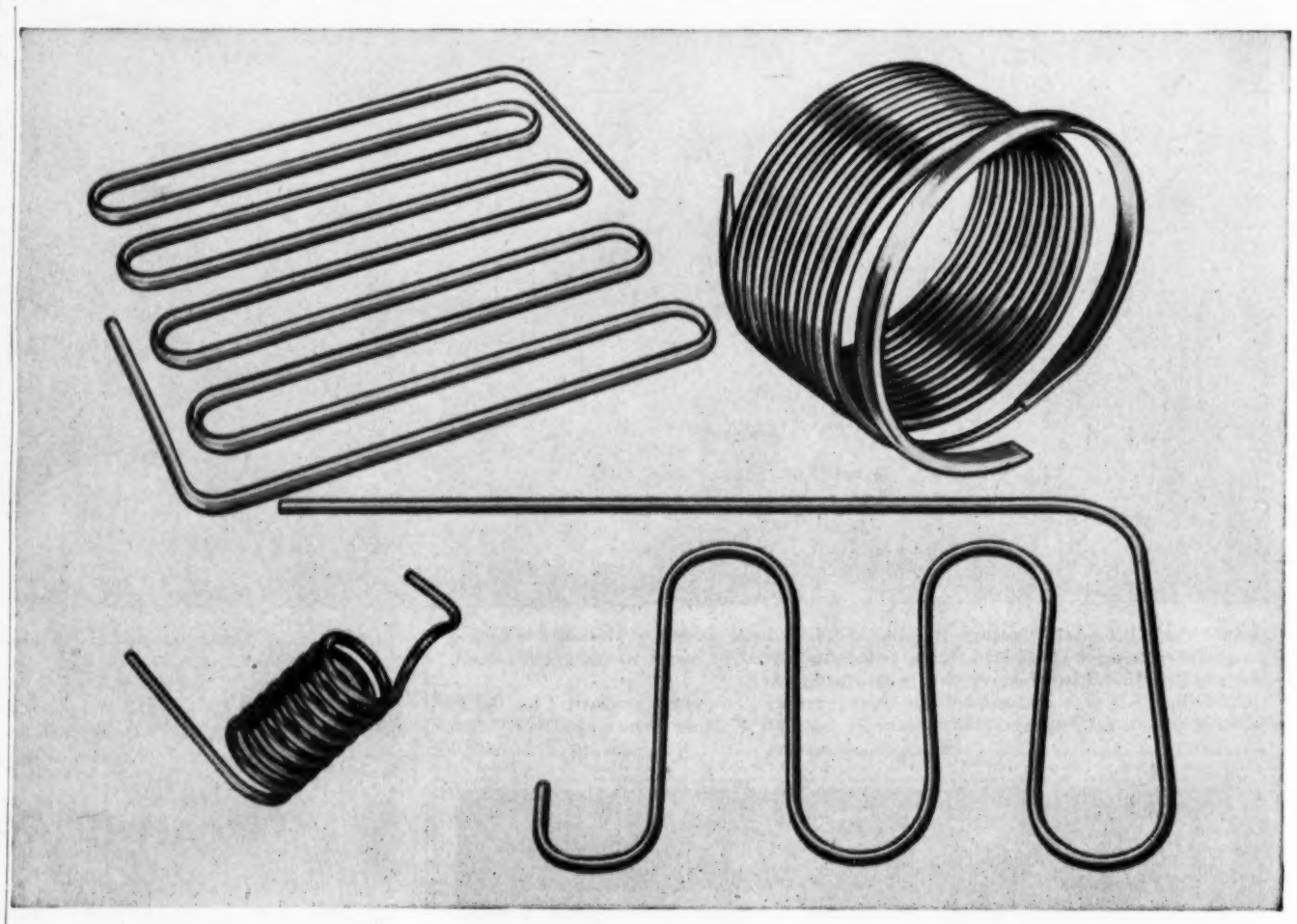


You get more than peace of mind with Bundyweld Tubing—much more

WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . .

continuously rolled twice around laterally into a tube of uniform thickness,

and passed through a furnace. Copper coating fuses with steel. Result . . .

Bundyweld, double-walled and brazed through 360° of wall contact.

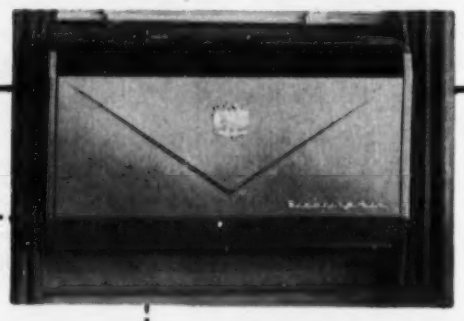
← NOTE the exclusive patented Bundyweld beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

Bundy Tubing Distributors and Representatives: *Cambridge 42, Mass.:* Austin-Hastings Co., Inc., 226 Binney St. • *Chattanooga 2, Tenn.:* Poirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Philadelphia 3, Penn.:* Rutan & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave., South • *Toronto 5, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., East • *Bridgeport, Conn.:* Karhumel Steel & Aluminum Co., 117 E. Washington St. • *Los Angeles 58, Calif.:* Tubesales, 5400 Alcoa Ave.
Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

Friedrich invites you

to visit booth 578 at the All-Industry Exposition

See the surprising new 1954 Friedrich FloatingAir Room Conditioners and the latest in Friedrich FloatingAir Commercial Refrigerators.



Top-Notch Opportunity For Top-Notch Distributor Organization

Commercial refrigerator manufacturer, 70 years in business, enjoying world-wide distribution with most modern and complete line. Has opening in some territories. Prefer inquiries from those with sufficient capital to take advantage of potentials offered in handling quality equipment with many exclusive features through popularity with chains, super-markets and independent merchants. Write airmail information on showroom and warehouse facilities, also sales and service organization. Inquiries will be held in confidence and personal interview arranged.

REG. U.S. PAT. OFF.

FRIEDRICH REFRIGERATORS INC.

P. O. BOX 1540

SAN ANTONIO, TEXAS

This ad may be running in your local newspaper. Why not answer it?

Preview Picture of the Show

(Continued from preceding page)

for prevention of corrosion and fouling.

Chrysler Corp., Airtemp Div. 225
Air-cooled and water-cooled residential air conditioners.

Coldin Cabinet Co. 630, 632, 634
New line of meat and delicatessen display cases, combination ice cream and frozen food merchandiser. Regular line of full vision counter-high display cases, low temperature cases, and dairy and beverage wall cases.

Consolidated Vacuum Corp. 739
Showing Hotpoint's new system for high vacuum drying of refrigeration units on continuous production basis. Diffusion-ejector pump, extended range Philips vacuum gauge, thermocouple vacuum gauge, and mass spectrometer type leak detector.

Copeland Refrigeration Corp. 556, 558, 560
First showing of some new items—but you've got to see Copeland to find out what they are.

Cornelius Co. 731
New type control beer faucet, double action beer faucet, water draft arm Complete line of beer dispensing equipment.

Cory Corp. 623
Fresh'nd-Aire's portable electric dehumidifier, all-purpose dehumidifier dolly, and timer.

Curtis Refrigerating Machine Div., Curtis Mfg. Co. 505, 515
Introducing new "5-way" heating and cooling unit. Showing 40, 15-ton air conditioning unit, cutaway compressor, and cylinder and loading model to show internal construction and operation.

Daffin Mfg. Co. 943
Displaying new portable domestic humidifier, redesigned industrial humidifier, model 300 "Hum-O-Zone," model 550 plenum humidifier for warm air furnaces, and model 500 humidifier for egg rooms, humidors, laboratories.

Davison Chemical Corp. 212
Introducing PA-400 desiccant with nearly double adsorption capacity of PA-100.

Dean Products Co. 216
Featuring rotating refrigerated display unit fabricated of Dean "job tailored" cold plates, evaporator plates made of various metals, and technical clinic.

Deering Air Conditioning Co., Inc. 650
Three air conditioners for casement windows and three central air conditioners.

Delco Products Div., General Motors Corp. 724
New line of shaded pole motors for air conditioning, integral horsepower hermetic motors through 15 hp.

Deming Co. 819
Special centrifugal air conditioning pumps, and deep well submersible pumps.

Detroit Controls Corp. 300
Animated demonstration of controls functioning under water, display showing operation of expansion valves and solenoid valves on air conditioning system.

Dole Refrigerating Co. 740
New "Truk-Cel" employing principle of "Cold-Cel" and forced air for hold-over during stop-overs. Also showing "Cold-Cel" hold-over plates, "Ice-Cel" plates for air conditioning.

Drayer-Hanson, Inc. 920
Simulated installation settings for VRC series "Spotaire" air conditioning units, new "Perma-Fan" evaporative condensers, and self-contained water chiller.

Dun & Bradstreet, Inc. 754
Showing typical "Reference Book" listing and credit report on fictional air conditioning firm. Staff will provide credit information facilities to subscribers at show.

E. I. du Pont de Nemours & Co. Inc., Kinetic Chemicals Div. 614, 616
Pushbutton display showing operating characteristics refrigeration units using "Freon-12" and "Freon-22." Exhibit of quality controls, services provided by Kinetic.

Ebco Mfg. Co. 431, 433
Cutaway view of OP-10 water cooler with water bubbling forth. Plastic demonstrator of J-20 air drier.

Emerson Electric Mfg. Co. 926
First showing of new Emerson-Electric room air conditioners. Cutaway and plastic housed hermetically sealed compressors. New and standard motors.

Esmond Mfg. Co. 913
Operating exhibit of new automatic ice cube machines.

Essex Wire Corp. 929
Display of cord sets, wire assemblies, current and potential type motor starting relays, manual and automatic overload protectors, industrial relays, contractors, and a.c. magnetic starters.

Eston Chemical Div., American Potash & Chemical Corp. 308
"Surprise" display showing applications of "Charg-A-Can." "Top Secret" giveaway items.

Evans Mfg. Corp. 614, 616
New triple duty self-contained counter case, beverage wall case, and reach-in self-contained wall case.

Fedders-Quigan Corp. 640
Four room air conditioners on display.

Flexible Tubing Corp. 748
Introducing "Thermaflex," new flexible ducting for air conditioning. Showing complete line of flexible fabric wire-reinforced ducting.

Flexonics Corp. 577
Showing new stainless steel straight wall tubing for duct systems. Motion displays will demonstrate how "Flexon" expansion joints and "Vibra-Sorbers" absorb vibration and lateral motion in piping systems.

Fogel Refrigerattor Co. 655, 656
New "All-Purpose" self-service merchandiser, "Triple-Deck Merchandiser," "Adapto" add-on case, "Zephyr" meat and poultry case on display. Also new reach-in, walk-in lines. Standard model cases.

Friedrich Refrigerators, Inc. 578
New ¾, 1-ton room air conditioners, frozen food case with automatic hot gas defrost, and rear service meat display case.

Friez Instrument Div., Bendix Aviation Corp. 840
New remote temperature indicator, new humidistat, and standard line of tools on display.

Frigid Igloo Mfg. Co. 705
First showing of siliconized metal in commercial refrigeration cases. New open, low temperature, hot gas defrosting, self service case; full-vision case; counter-high display case; delicatessen case; and beverage wall case.

Frigidaire Div., General Motors Corp. .. 419, 421, 423
First showing of 1954 year-round air conditioner. Cutaway Cadillac car with air conditioning system, operating ice cube maker, window cooler will be displayed.

Gem Refrigerator Co. 749
Introducing commercial refrigerator with revolving shelves for self-service. Also showing florist display, wall-type reach-in, and bakery display refrigerators.

General Controls Co. 822, 824, 826
Displaying new low voltage heating-cooling thermostat, thermostat expansion valves for air conditioning, solenoid valves for automobile air conditioning, waterproof solenoid valves, and flanged fitting solenoid valves.

General Electric Co. Air Conditioning Dept. 418
First showing of new line of streamlined water coolers, 1954 line of packaged commercial air conditioners.

General Electric Co., Apparatus Dept. 823, 825
New "Tri-Clad 55" integral motor, defrost control and unit bearing motors, general purpose control. Also fractional horsepower motors, heating controls, hermetic motor parts, leak detector.

Halstead & Mitchell 102, 104
Unveiling first stainless steel housed residential cooling towers for air conditioning, new line of multi-section condensers for package air conditioners.

Harris Refrigeration Co., Inc. 909
Recorder will be attached to 15 cu. ft. -150° F. low temperature cabinet to show all temperatures and pressures throughout system.

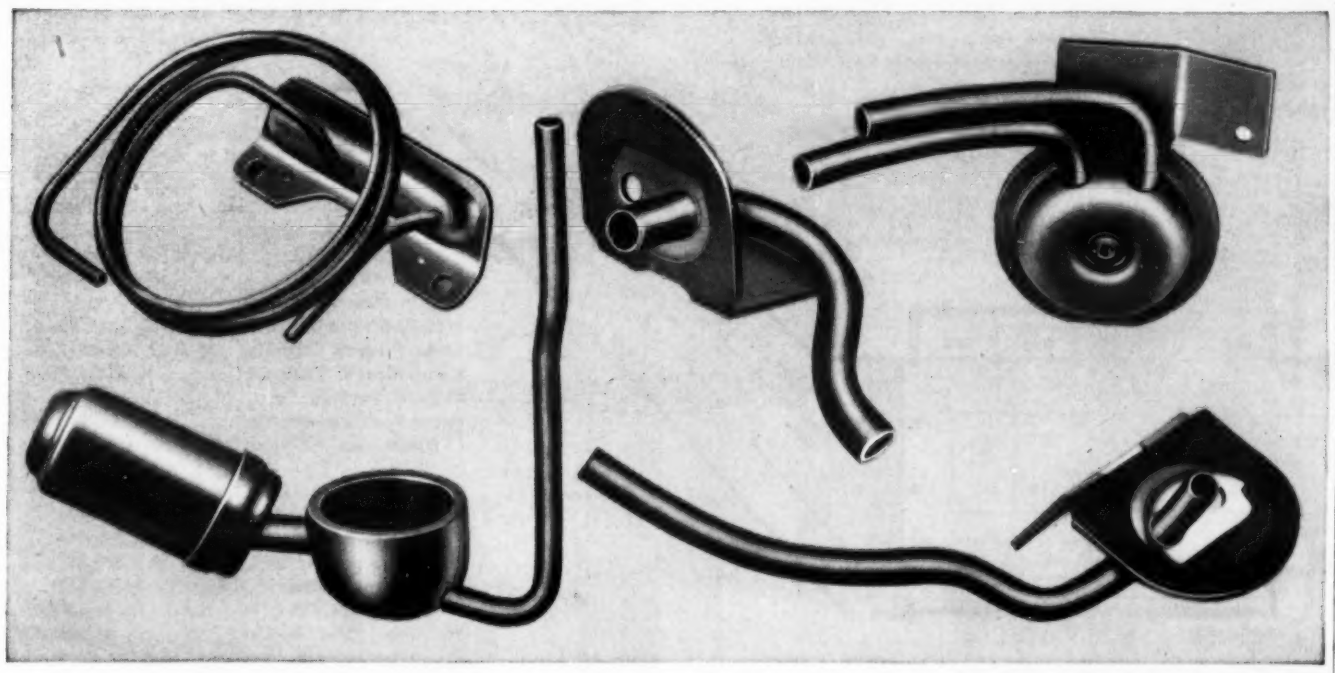
Heat-X-Changer Co., Inc. 503
Operating displays of new water chiller for air conditioning and water-cooled condenser, both using inner-fin coils. Free soft drinks from soda fountain cooler.

Henry Valve Co. 637
Exhibiting complete line of valves, strainers, driers, check valves, three way dual control valves, relief valves, liquid level gauges, ammonia valves and fittings.

C. V. Hill & Co. 721
No equipment, but a friendly get-together spot to discuss industry problems.

Holsclaw Bros., Inc. 657
Showing improved tube bender that will make "L" type bends on hard copper tubing.

(Continued on Page 20)



Here is a small sampling of the variety of tubing parts produced for Bundy refrigeration customers. Many of them involved close cooperation between Bundy engineers and the customers, in solving problems of design and function. Are your tubing designs simple or complex? Do they call for serpentine coils, swaging, flattening, expanding, brazing, saddle jointing, bending to small radii, piercing, upsetting, slotting, threading, angle cutting, notching, flanging, flaring, reducing, tapering, other fabrication operations, or combinations of the above? Come to Bundy for the refrigeration industry's most reliable tubing, most helpful engineering talents, and most versatile fabrication facilities.

It almost goes without saying that you can't beat Bundyweld for leak-proof, dependable performance in your compressor and evaporator coils and refrigerant lines, and in other tubing lines throughout your refrigerators and freezers.

But you get more than peace of mind with Bundyweld. For instance, you tap a wealth of fabrication facilities and engineering skills.

Do your tubing part designs call for difficult fabrication operations or easy ones? Do the designs call for unusual combinations of operations? Do they create problems that may seem unsolvable?

If your needs call for a tubing part that is at all produceable, you can count on us to do the job—exactly to specifications at lowest possible cost. But say it isn't produceable. What then?

Just this. Bundy engineers, who know their Bundyweld and refrigeration tubing problems inside and out, will work with you personally, until problems turn into solutions. **This help** and teamwork pay off in time and trouble saved. And such a pooling of specialized skills—yours and the Bundy man's—frequently pays off in lowered material costs and lowered production costs, too.

What if *your* company is geared for low-cost fabrication? Wonderful. You can count on us to ship clean, carefully inspected Bundyweld on time and in specified straight lengths. Of course, you can still summon all the engineering help you can use.

For tubing that's the standard of dependability, for fabrication facilities and engineering talents devoted to producing better tubing parts at lowest possible cost, come to Bundy, headquarters for small-diameter tubing.

BUNDY TUBING COMPANY • DETROIT 14, MICHIGAN

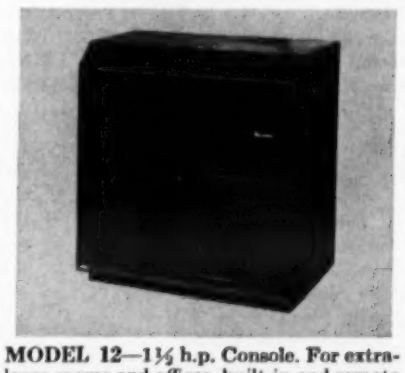
Bundyweld Tubing®

DOUBLE-WALLED FROM A SINGLE STRIP

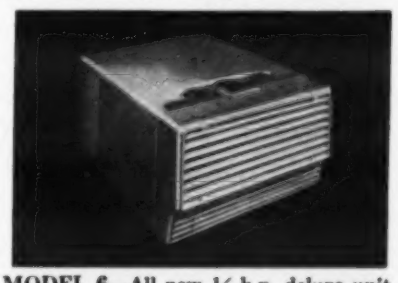
GOOD NEWS

Published for Room Air Conditioning Dealers

"More dollars for dealers" promised by all-new 1954 Remington line



MODEL 12—1½ h.p. Console. For extra-large rooms and offices, built-in and remote installations. Genuine traditional dark or blonde mahogany or steel cabinet. Climate Compensator, electric heat, Automatic Temperature Control. 1 h.p. MODEL 10 Console same general style.



MODEL 6—All new ½ h.p. deluxe unit. Features famous Climate Compensator, Automatic Thermostat, Air-Kem Freshner, optional heating, and other sales-clinching features. Handsomely finished in Mist Green with Antique Ivory or Cascade Green grille. Same general style for ⅓ h.p. (MODEL 4) and ½ h.p. Master.

Health and Comfort by the roomful

Remington AIR CONDITIONING

Division of Remington Corp.
Auburn, N. Y., U.S.A.

AUBURN, N. Y.—Remington Corporation, Air Conditioning Division, today revealed exclusive engineering features of its new 1954 lines of console and window-type room air conditioners.

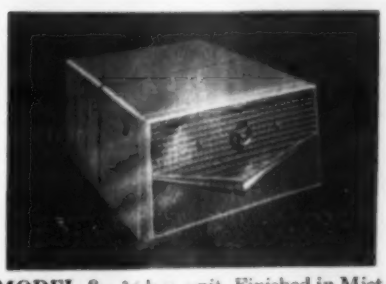
These sparkling all-new models are expected to build dealer sales volume to new highs.

Features Answer Customer Needs—These units offer many startling new features—several of them exclusive with Remington. Included are the Climate Compensator for added cooling or dehumidification; and the Air-Kem Freshner which sweetens indoor air and neutralizes objectionable odors; electric heating (standard on some models, optional on all others); Automatic Temperature Control; 2-stage fans for positive ventilation, and others.

Sure-fire sales-building promotional plan—Dealers get another big advantage in handling the 1954 Remington line—a strong program of national advertising plus a real merchandising plan on the local level to back it up.

This plan will enable aggressive dealers to take advantage of thousands of dollars worth of national and local promotion *free*.

To get the full story dealers should write: Dept. 11-4, Remington Air Conditioning Div., Auburn, New York.



MODEL 8—¾ h.p. unit. Finished in Mist Green, with Cascade Green and Gold grilles. Single dial control and Hi-Cool setting. Same general style as Automatic Thermostat control for 1 h.p., MODEL 11.

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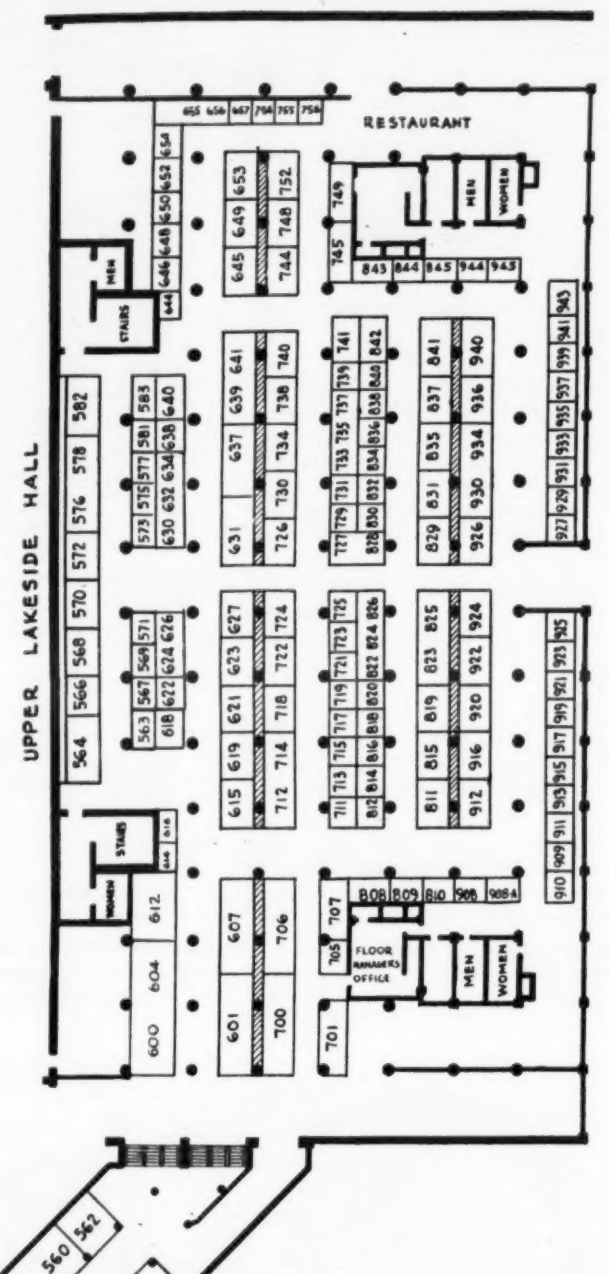

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Barkow

weatherwise air conditioners

Mr. Jobber, Mr. Dealer

Are you getting your share of profits from the Air Conditioning Boom?

Are you going to be the Residential Air Conditioning Specialist?

If you are, then investigate a tried and proven unit . . . the BARKOW "WEATHERWISE."

For the latest developments in Air Conditioning, visit BOOTH 843, ALL-INDUSTRY EXPOSITION!

refrigeration division

Aug. G. Barkow mfg. co., inc.

2230 south 43rd street, milwaukee 15, wisconsin

MANUFACTURER'S REPRESENTATIVES

Due to expansion of production, excellent opportunities exist in several lucrative territories, by national manufacturer of home freezers. Manufacturer's representatives now contacting appliance distributors and refrigeration equipment wholesalers desired.

Furnish complete information to Box 4427,
Air Conditioning & Refrigeration News

CORKBOARD

- Steam-Baked
- Price—20% Lower
- Fed. Specific. H. H.-C561B

WRITE FOR PRICES

SUPREME INSULATION INC.
55 W. 42nd St., New York 18, N. Y.
Telephone OXford 5-1474

HOME & FARM FREEZERS

G-E Offers Skewer Sets To Dealers as Giveaways

LOUISVILLE, Ky.—Sets of five poultry skewers assembled in colorful greeting cards are being made available to General Electric major appliance dealers through their distributors for use as giveaways during the coming holiday season.

The stainless steel skewers are 2½ in. long and are accompanied by 24 in. of lacing cord. Directions for skewering and lacing poultry for roasting are printed on the back of each card. The folded cards are designed so that the skewers may be put back in them for safekeeping after each use.

Dealers may obtain the skewers at a nominal charge, with or without their names imprinted on the cards.

Rental Plan Lets Customer Check on Freezer's Value

ELMIRA, N. Y.—A food freezer rental plan is being offered by Clair H. Schneck & Sons, Inc., appliance dealer, as a means of stimulating home freezer business.

The store informed prospects that:

1. The food freezer rental is designed for homes that are undecided if a food freezer will live up to the claims made for a freezer.

2. Schneck's agree to rent a food freezer for a period of six months for $5 a month.

3. If the individual decides to buy, rental is applied to purchase.

Dole Elected President Of Wichita Association

WICHITA, Kans.—Emerson Dole, The Appliance Center here, and one of the directors of the National Appliance and Radio-TV Dealers Association, was recently elected president of The Wichita Appliance Dealers Association, Inc., a NARDA affiliated local association.

Officers who will serve with Dole in the coming year include Jim Broadhurst, vice president; Victor Hemmen, treasurer, and Gil Cathey, secretary.

The directors of The Wichita Appliance Dealers Association, Inc., in addition to the officers are: Hubert Mitchell, Cook-Mitchell Electric; Jack Hennigh, Hennigh's, Inc.; Robert Mason, Superior Distributing Co.; John Dennis, Dennis Washer Co., and Carroll Willis, Siebert & Willis.

Amana Names Distributor For Central Canada Area

AMANA, Iowa—Appointment of D. Ackland & Son, Ltd., Winnipeg, Manitoba, as distributor for Amana freezers in central Canada, was announced by E. L. Hinchliff, sales manager for Amana Refrigeration, Inc.

The firm will distribute Amana freezers to dealers in Alberta, Saskatchewan, Manitoba, and the western part of Ontario.

Officers of D. Ackland & Son are: M. Schachter, general manager; L. Cantlon, general sales manager; L. Walker, comptroller; A. Lightfoot, manager, appliance division; and Warren Leonhardt, credit manager.

Jones Opens New Store In Aiken

AIKEN, S. C.—The Jones Electric and Appliance Co. which was destroyed last January during a disastrous gas explosion, reopened its door on Oct. 15 in its new location on Hayne Ave.

The firm's new building, a modernistic brick and plate glass construction, has recently been completed for the grand re-opening celebration, which continued for three days.

Home Freezer Dealer, Food Store Join Up as Promotion Team

'Lucky Key' Gimmick Brings Customers Into Both Stores

TOWSON, Md.—Stebbins-Anderson Co., Inc., appliance dealer here, and a local food store both enjoyed increased sales and developed prospects when they teamed up in a home freezer-frozen foods promotion featuring the "lucky key" gimmick.

Persons visiting either of the stores during the promotion were handed a key and invited to try to open the padlock on a freezer. If the key fitted, they received $5 worth of frozen foods free.

At the same time, visitors were asked to fill out a coupon to be used in a drawing at the end of the promotion. Winner of the drawing won an 8-cu. ft. freezer filled with frozen foods.

Both stores accumulated several hundred names. Stebbins-Anderson sent out literature to all these prospects, enclosing a post-paid card that would enable them to obtain further information about freezers.

When these cards came back to the store, a salesman called senders and either arranged for a personal visit or tried to get the prospect into the store. As a result, many freezer sales were closed.

CUSTOMERS are given coupons for drawing to win 8-cu. ft. freezer filled with frozen foods.

PUT YOURSELF IN THIS
$ Profit Picture for '54 with
SUB-ZERO
• FREEZERS
• MILK COOLERS
• AIR CONDITIONERS

Yes, you can put yourself in the "profit-picture" with Sub-Zero . . . the line that *sells* because it has all the features your customers want most—handsome styling, large capacities, upright convenience and economy, dependable operation. And Sub-Zero is a complete line . . . with freezer capacities from 15 to 172 cu. ft. . . . with both spray and cascade milk coolers . . . and efficient, all-season room air conditioners. Help yourself to the profits that the line that's right will bring you—Sub-Zero . . . designed and built by refrigeration engineers. Write today for complete information.

Visit us at the All-Industry REFRIGERATION AND AIR CONDITIONING EXPOSITION Cleveland, Ohio Nov. 9-12, 1953 Booth No. 509

MODEL 20 MODEL 15 MODEL 18.5 MODEL 25

Fast, efficient, economical cooling really sell Sub-Zero Milk Coolers. A complete line of 4, 6, 8 and 12 can coolers available in both Cascade and Spray Type Models. (Model illustrated is 6 can Cascade Cooler.)

You sell pleasant living with this new Sub-Zero All-Season Air Conditioner, cools and heats—filters and dehumidifies . . . it's a "best-seller"!

SUB-ZERO FREEZER CO., INC.
MADISON, WISCONSIN

Complete APPLIANCE WIRING SYSTEMS

CUSTOM ENGINEERED TO REDUCE YOUR ASSEMBLY COST

Streamline production with Riverside wiring harnesses! These neat "packaged units," engineered for accurate, easy installation by unskilled assemblers, make possible the efficient hookup of a **single unit installation** to your product. We design and manufacture them in any required arrangement, including necessary terminals, relays, limit switches, push-button stations, circuit breakers, junction blocks, etc. Engineering and Experimental departments at your service, without obligation. Call us or send details of your problem for prompt design recommendations and a firm quotation.

RIVERSIDE MANUFACTURING AND ELECTRICAL SUPPLY COMPANY
10233 Michigan Ave., Dearborn, Mich., Tiffany 6-6800
WIRING HARNESSES AND ASSEMBLIES • CORD SETS • HEATER AND EXTENSION CORDS • SWITCHES • MOLDED RUBBER PRODUCTS

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Continued from Page 1)

'From Here to Eternity'

Judging by correspondence from our subscribers and reporters, several thousand readers of this kolyum have witnessed — and liked — the movie *From Here to Eternity*.

Over and over again during the last few weeks we've heard: "Didn't read the book . . . too much filth, they say . . . but James Jones sure wrote a wonderful picture script."

Obviously many of these people were lying through their teeth when they protested they hadn't read the highly original and pungent Jones novel. Its sales were phenomenal.

So, according to the mathematical laws of Probability, dozens—yeah, hundreds—of these pious protestors DID read it.

Nobody buys *From Here to Eternity* for a museum piece—to exhibit in the parlor alongside the Bible, Dante in buckram, a faded but unthumbed Shakespeare, or the dusty Collected Works of Alfred Lord Tennyson.

Anybody who purchases this book does so because he or she feels there's *something in it for HIM*. And they are so right—there's plenty in the book to interest anybody.

Frankly, DOPE thought it was "real gone, man."

Genius vs. a Town

As a change of pace from politics, economics, sports, and business—we'd like to talk about Jim Jones. He's the guy who wrote *From Here to Eternity*.

Also we'd like to review that young man's extraordinary impact on his newly adopted base: Marshall, Illinois. (It's our home town, also.)

Having grown up in Marshall, the writer loves it, naturally. Furthermore, he appreciates its delightful uniqueness. Like all modest communities (and "little business" firms) Marshall is:

(1) *Eager for recognition.* All small cities try hard to find a special reason for pride: a third-place winner in a baton twirling contest, a Sunday School attendance record, a championship football team 30 years back, a departed citizen who was mentioned in *Readers Digest*, the Biggest Aspidastra in the World, etc.

What they've got is good—wonderful, really. Yet, they don't live in New York or work for General Motors. So, perversely, they look for a gimmick to prove that they are BIG, too.

Were they living in Manhattan, or working for a huge corporation, they might not be so happy as they are. Nevertheless, they feel constrained to Point With Pride toward something-or-other which *elevates* their community stature.

Unnecessary compulsion, perhaps; but it's human nature to magnify.

(2) *Possibly Prim.* Because the life they lead is so pleasant and peaceful, they resent anything which might disturb it. Hence, typical citizens feel they ought to be shocked by irregular behavior. Conform to the Norm! Anybody who doesn't act like he is supposed to is considered screwloose—or even an Emissary of Satan—by conscientious burghers and elderly dogmatists

(3) *Gleefully gossiping.* Everybody knows everyone else, and has heard the worst about the latter's grandfather, cousin Jake, and Aunt Tillie. Also they know in advance what you are about to do before you do it. Sneeze on Fifth Street. Ten minutes later people on Fourth, Sixth, and Maple streets are ready to offer you a handkerchief. And ain't it a shame about Mame?

But it's a wonderful town, nevertheless.

Booth Tarkington, in his *Saturday Evening Post* "Memoirs," described Marshall:

"I went to a little town that was a boy's sheer heaven. Loveliest village of the plain, it lay in Illinois just beyond the Indiana border, an emeraldine jewel of the midland. Old brick courthouse in the shady green square; stamping and switching farmers' teams hitched all day to the court house fence; nonsyllabic loafers draped elsewhere upon this fence, whittling a little between reveries; stores sleeping in the sun all around the square; and on Main Street stirless dust, except when a dust whirlwind flipped up from it to dance a moment in the sunshine. All the boys in Marshall went barefoot throughout the summer; meadows, woods, creeks and old covered bridges were within a hop, skip, and jump from everywhere; nobody hurried and everybody seemed to know everybody else amusedly and without severity."

Wrong Man In Right Place

To this preciously prototype atmosphere came wondrously unorthodox James Jones.

Extraordinarily successful author he was, and "the brains" behind a great movie, too. Furthermore, Jim has made a lot of money . . . and is a bachelor. What a prize for Marshall! . . . (You might think.)

BUT—James Jones doesn't like the plush-red-carpet treatment. He wants to be let alone. And, so help us all, he was and is. That achievement might be more remarkable than his story-telling accomplishments.

Only an authentic genius could become truly obscure in a small town. William Faulkner is a case in point. He can't manage it without a bottle, it is alleged. Yet, the attainment of privacy is said to be this Nobel Prize Winner's heart's desire.

No Chauffeured Limousine

To be sure, the good citizens of Marshall played a fulsome role in this drama.

As a famous author Jim Jones wasn't quite what Marshall had in mind, could it have its "druthers."

Jimmy didn't arrive in a chauffeured Cadillac (footnote: he does drive a Chrysler convertible, and covets a Mercedes-Benz). Nor did he wear a Van Dyke beard, striped pants, and a Homburg hat.

In fact, he looked more like a farmer than Marshall's regular Saturday afternoon customers.

Unkindest cut of all: he had written a "naughty" novel, replete with words which are uttered only in Terre Haute.

Lloyd Douglas would have been more Marshall's style. Better yet, another Harold Bell Wright.

Accommodating a famous fellow who refuses to ACT like a Big Shot (and who had written a book unmentionable in polite society) posed a peculiar problem for Marshallites.

Jones and Marshall solved this dilemma in a mutually satisfactory manner. Pious citizens ignored his presence. And he, happily ignored them.

Thus Jimmy obtained the privacy he needed and wanted.

Whereupon everyone concerned heaved a collective sigh of relief.

Lowney's Stray Cats

In the meantime, without busybody interference, Jim's wonderful patroness has been developing her lifelong Dream—a Colony for promising young writers.

From the moment she was knee-high to a grasshopper (a Marshall colloquialism) this unusual woman has yearned to be a Literary High Priestess. And now she is. After a fashion.

Harry Handy (Lowney's husband, a highly successful businessman in his own right) owns scenic Marshall farmlands—on which Jim, Lowney, and their proteges are erecting a rustic baroniality.

Showpiece of the layout is Jimmy's dream home—which incorporates a two-story tall living room with a dramatic balcony, and a Lucullan bathroom in which only Charles Laughton should be allowed, plus a multitude of electronic gadgets to satisfy Jimmy's restless search for automatic peace.

Scattered around the landscape are cabins, and an extraordinarily lengthy and capacious swimming pool.

Jim and "the colony" have done most of the carpentry, stonemasonry, etc. with (to coin a phrase) their bare hands.

Lowney has been the driving force. Under her velvet-glove "whip" the lads write mornings, do manual labor afternoons, and read to one another nights. Mighty cozy. Productive, too.

The isolated Jones' layout is worth driving miles out-of-your-way to see. Trouble is, they probably won't let you—it's the Tibet of America's Heartland.

Handy Yet

Lowney Turner Handy comprises a remarkable story in herself. Always she has been devoted to personal expression, and to the Mount Everest of Writing.

"Dope" knew her in high school, and listened to her dreaming-out-loud fantasies when we were on the same debating team.

Lowney nourishes a dimming desire to write something herself. Some soulfully dedicated publisher should produce at least one of her stories, if only to preserve for posterity an unusual style which is 17 degrees south by southwest of Joyce, and not far from the 13th latitude of Stein.

Lowney deserves tremendous applause for her attitudes, we should add. Her heart is bigger than all outdoors (another Illinois colloquialism).

She and her husband, "Hap" (foreshortened nickname which originally was "Happy") are childless.

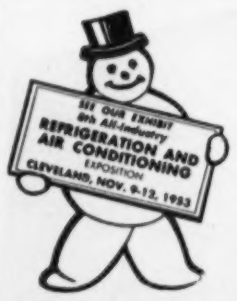
Had they been less devoted to literature, long ago they'd have established a haven for stray cats, abandoned dogs, or unwed mothers.

However, they found a *different* outlet for their thwarted parental instincts. So they took care of Jim Jones while he wrote *From Here to Eternity*. This faith paid off—and they are parlaying it.

Currently they are sponsoring a Shelter for Promising but Destitute Writers. Lowney has high hopes for it. Jimmy is subsidizing it. And Harry is Father Confessor to the tribe.

Marshall looks askance at all this. Hasn't figured out what it's all about—or Who, When, and especially *Why*. It *tolerates*, but it whispers.

(Concluded on next page)



JOIN THE PARADE TO BOOTH 428 . . .

FOR THE NEWEST LA CROSSE "PROFIT PROVEN" EQUIPMENT!!

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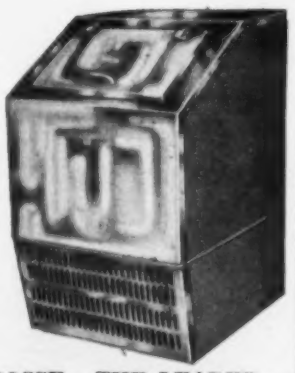

One of many La Crosse values on display in Booth #428. The new Kube King features sparkling, cylindrical kube without holes, 1½" x 1⅜" . . . approx. 2,000 kubes every 24 hours . . . storage bin capacity for approx. 75# . . . no pumps . . . compressor panel and controls pull out from front for quicker, easier servicing.

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McQuay INC.

REFRIGERATION • AIR CONDITIONING • HEATING

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from preceding page)

Marshall's shrewdest judge of character, ageless banker Earl Morris, stubbornly (and possibly unpopularly) insists: "Jones is a lot smarter than people think."

Cousin Earl could be mighty right.

Boy Sprout In Beaulah Land

Jones hasn't found himself yet, despite his fabulous success.

As a companion, he's superb.

As a "character," he's far ahead of his publisher's press agents.

Honestly, "Dope" figures Jim Jones would be happier as a prizefighter. It's not incredible that he could have earned "big money" QUICKER as another Ad Wolgast than he has through writing.

Judging by the slick-easy way he moves around, his feline litheness, and his instinctive sense of balance, this former sportscribe believes Jim might have become a fine welterweight had he so chosen.

Externally, Jim is a low-pressure guy. Inwardly, we believe, he's on fire. His eyes light up when a felicitious phrase is voiced. His *soupcon* of a mustache quivers when a fresh idea is introduced. He watches everything and everybody—without seeming to—all the time. Jim *acts dumb*, but IS smart.

In his new home James Jones has incorporated an upstairs playroom devoted to HIS type of recreation—punching bags, a trampoline, and an extravagant collection of rare guns. Significant?

He isn't at all gregarious, as you might guess. One Marshall companion is Barney Millhouse, a personable barber who is tuning up to become another Kin Hubbard.

Barney is about Jim's age, and is fully as antipathetic toward Glory as Jones seems to be. If Winston Churchill, Eisenhower, and Malenkov entered Barney's barbership simultaneously, Millhouse wouldn't drop a smear of lather.

"Next," he'd say, imperturbably, after they'd waited an hour or so.

Incidentally Barney Millhouse married Sylvia Ritter, the Town Belle.

In addition to her charm, Sylvia is an astute businesswoman—possibly the richest gal thereabouts.

The Millhouses aren't awed by Jim Jones—nor do they need any of his money.

So he isn't wary of them. Relaxing with droll Barney and bornhostess Sylvia, Jim, and Lowney seem carefree-like.

Three or four miles down the pike from their baroniality resides legislator John Lewis, who is the most admirable politician Marshall has produced, and undoubtedly the most interesting conversationalist.

They haven't got together yet.

1st Southern Home Show Set for Greenville, S. C.

GREENVILLE, S. C.—Air conditioning equipment and household appliances are among the types of products that will be exhibited at the first Southern Homes Show, to be held March 22-26 in Textile Hall here.

The show will be staged by Textile Hall Corp. whose personnel for more than 35 years has put on the biennial Southern Textile Exposition.

The company said the Southern Homes Show, which is planned as an annual affair, will be the south's largest and most complete home building and house furnishings exposition for 1954.

Present plans call for the accommodation of about 200 exhibits. Local firms have already indicated they will use approximately a fourth of the available space, according to Miss Bertha M. Green, secretary of Textile Hall Corp.

The show will be open from 2 p.m. to 10 p.m. each day.

Steinen Acquires More Plant Space In Newark

NEWARK, N. J.—Wm. Steinen Co. here has announced the purchase of an additional 20,000 sq. ft. of manufacturing space in Newark along the Pennsylvania Railroad.

The property was formerly owned by Quiet Heet Mfg. Corp., which has moved to another location. With the added space, the company said, it has been able to streamline manufacture to its new "Baro-metric" draft regulator and related products.

Detailed Climatic Data Book Offered by N. C. State College Engineers

RALEIGH, N. C. — Detailed climatic data covering every county and most major cities of North Carolina has been provided for engineers, architects, and contractors in a recent bulletin issued by the Department of Engineering Research of North Carolina State college here.

Designated as Bulletin No. 5 in the Industrial Information Series, it was prepared by T. C. Brown, associate professor of mechanical engineering at the college.

Aim of the bulletin is outlined in its introduction as follows:

"The air conditioning industry has made great strides and has experienced a rapid growth during recent years. Some of the installations of heating plants and air conditioning units have been based on 'guesswork,' and 'rule of thumb' methods. This bulletin is offered as a guide to help improve this situation.

"The logical sequence of heating and air conditioning investigations is to first determine the climatic factors that affect the design, maintenance, or operation of the equipment in question, and then to consider ways of economically meeting these conditions."

First six pages of the booklet are devoted to text and drawings discussing topography of the state, general climatic conditions, temperatures, precipitation, water supply, and recommended design data.

Several tables follow. Table 1 is a climatic summary by counties of the state of North Carolina. Here are listed temperatures (January average, July average, maximum, and minimum) and the monthly average precipitation as well as the annual total.

Table 2 gives the mean precipitation for the entire state by month and by the four seasons.

In Table 3 are found the elevations and locations (by latitude and longitude) of major cities in the state—Asheville, Charlotte, Greensboro, High Point, Hatteras, Norfolk (Va.), Raleigh, Wilmington, and Winston-Salem.

Table 4 gives detailed data on relative humidity, degree-days, and wind for these same cities.

Hardness and source of water is listed in Table 5 for 32 cities in the state.

Recommended winter design temperatures for heating are listed in Table 6 for eight cities.

Tables 7 and 8 give recommended "normal" and maximum" design temperatures for air conditioning and refrigeration for the cities of Asheville, Raleigh, and Wilmington.

In Table 9 are found recommended mean design water temperatures at main outlet for Asheville, Charlotte, Durham, and Raleigh, while in Table 10 are listed average city water costs for "mountain cities" and "piedmont cities."

Trane Co. Names Two to Heat Transfer Sales Dept.

LA CROSSE, Wis.—Two personnel additions in the heat transfer sales department of The Trane Co., manufacturer of air conditioning, heating, and ventilating equipment, have been announced by H. C. Rooks, vice president.

Ellsworth A. Brown, Jr., has been appointed assistant to the manager of process heat transfer sales. Brown has a B. S. degree in mechanical engineering from the State University of Iowa, and an M. S. from California Institute of Technology.

Appointment of Vernon R. Anderson as assistant to the manager of aircraft heat transfer also was announced. He has a B. S. degree in mechanical engineering from Stanford university.

"Stories of the Week" In Handy Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

Here's why: this book of good stories *you* can tell is printed on thin paper, bound in flexible leatherette, and *designed to fit neatly into your inside coat pocket.*

While waiting in an ante-room to see Mr. Bigdome, the sales representative can thumb through it and pick out four or five pertinent jokes which are guaranteed to put his prospect in a good mood.

The man about to make a speech—or one who figures he may be asked to rise and shine extemporaneously—can consult it surreptitiously while the toastmaster is doing his stuff. Although it's jam-packed with grand tales, it isn't bulky. Rather, it's unobtrusive. Looks more like a leather wallet than a book.

You can be the life of the party if you've memorized some of the anecdotes in this book. Everybody loves a good story well told—and all the jokes in this book have been tested on tough audiences, both large and intimate, by the author.

Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated gift anytime.

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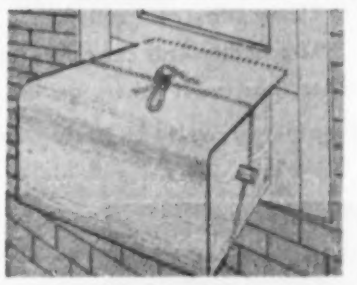
BE SURE IT FITS WITH AN "ALL-WEATHER" Room Air Conditioner COVER*



- 24 custom-made patterns to choose from.
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Send for new order chart & quantity prices.

List—$6.95 for ALL Covers.
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Manufactured by
ALL-WEATHER SUPPLY CO., INC.
1185 BROADWAY, N. Y. C. 1, N. Y.

Review of Advance Product Information Reflects 'What's In Store for '54'

(Continued from Page 15)

Howard Refrigerator Co., Inc. 707
New bain marie sandwich unit, "Blu-Comet" electric beverage cooler, F-14 upright freezer, WC-35 refrigerated wall case. Also other model freezers and frozen food case.

Ideal Cooler Corp. 615
Introducing new stainless steel line of beverage coolers, all with water coolers and drawing stations.

Imperial Brass Mfg. Co. 318
Showing new "Red Head" packless valve, "Sahara" drier, "Flex-King" charging lines, precision double flaring tool for making 45° double flares, and improved refacing tool.

International Register Co. 723
New "Inter-Matic" time switches for controlling heat defrosting cycles of less than one hour and "Time-All" automatic home appliance timer.

Jackes-Evans Mfg. Co. 718
Featuring complete line of quiet solenoid valves that do not require "impact action" for opening.

Jarrow Products 713
First showing of plastic window seal gasket for window type coolers. New "Jarene 'B'" vinyl plastic door gaskets in striking colors.

Jordon Refrigerator Co. 100
First showing of "Angle-Vue" frozen food merchandiser. New full vision display case, freezer dough retarder with automatic defrosting, 1954 line of reach-ins, flat top beverage cooler, and 4½-ft. wall case.

Kason Hardware Co. 638
Featuring new edgemount latches and hinges for reach-in doors, two-point freezer latches for infitting doors, and safe-guard latches for both cooler and freezer doors.

Kelvinator Div., Nash-Kelvinator Corp. 550, 552
New line of internally-mounted sealed condensing units, open-type condensing units, two frozen food merchandising cabinets on display.

Kennard Corp. 312
Introducing shell and tube liquid chiller "of revolutionary design." Also showing air conditioning coils for direct expansion, chilled water, hot water, and steam; multi-zone air conditioner blower unit; and economy package cooling tower.

Kerotest Mfg. Co. 133
Showing newly designed pressure relief valve, diaphragm packless line and angle valves with moulded nylon seat inserts.

Kirsch Co. 573
New line of condensers and evaporators for room air conditioners. Regular line of fin and tube steel condensers, including expanded metal condenser for static application.

Koch Refrigerator Co. 911
Strictly a courtesy booth. Maybe with a small reach-in.

Kramer Trenton Co. 403, 405, 407, 409, 411, 413
Step-by-step illustration of no-return-bend construction of patented "Figure 8 Surface." Introducing the "Winterstat" for "Unicons," new air conditioning unit with "muggy air" control, and new wedge-unit for reach-ins.

LaCrosse Cooler Co. 428
First public showing of new air conditioning unit, new "Kube-King" automatic ice machine. Also displaying metal drain board, two-keg beer cooler, dry storage bottle coolers.

Larkin Coils, Inc. 551, 553
Introducing new line of comfort conditioners and re-designed line of air conditioning coils. Working model of low temperature "Humi-Temp" with "Frost-o-Trol" automatic hot gas defroster.

Lau Blower Co. 729
Demonstration of performance characteristics of direct drive blower.

Lehigh Mfg. Co., Div. of Lehigh Foundries, Inc. .. 126, 128, 130, 132
First showing of 1954 model automatic truck refrigeration system. New reverse cycle automatic defrost system.

Lewin-Mathes Co. 561
Refrigeration tubing in special "Handi-grip" carton. Wrought iron castings.

Lipman Refrigeration Div. Yates-American Machine Co. .. 500
New model convertible air conditioner and "the very latest" in automatic ice tip machines.

Madden Brass Products Co. 719
Wide range of stock styles and sizes of brass fittings on display.

The Marley Co. 714
Cutaway Model 53 "Aquatower," natural draft tower, model 34 Aquatower on display.

Marlo Coil Co. 229
New "Thrifti-Tower" cooling tower for home air conditioning, residential air conditioning unit, spot conditioner, and remote air conditioner for motels.

Marlow Pumps 923
Type MP air conditioning pump operating on a unique plastic cooling tower setup. New line of Type MP pumps.

Jas. P. Marsh Corp. 113
First showing of "Serviceman Timer." Displaying complete line of gauges and thermometers. New line of all steel needle valves.

McCray Refrigerator Co., Inc. .. 734
Displaying "Twin-Door" upright freezer, 43-cu. ft. commercial reach-in freezer, and 53 and 82-cu. ft. remote type reach-in refrigerators.

McIntire Connector Co. 520
Transparent refrigeration system to observe water and foreign matter in system and proper steps for removal. "Drier Clinic" for discussion and solution of removal problems.

McQuay, Inc. 700
Re-designed line of two-way unit coolers, direct expansion and water coils, including "Pace maker" unit coolers, "Radial" unit coolers, "McQuay Seasonmaker" air conditioning units, evaporative condensers, cooling towers, and automatic reverse cycle hot gas system.

Mitchell Mfg. Co. 119
1954 line of room coolers on display. Also electric dehumidifier.

Mueller Brass Co. 501
New line of refrigerant driers, redesigned "deluxe" drier line, and "Sentinel" line. New angle-type drier-strainer, angle-type globe valves.

Pacific Lumber Co. 756
"Palco Board," rigid type redwood bark insulation makes debut. "Palco Wool" also on display.

Palmer Mfg. Co. 738
"Twin-Door" upright freezer and new "Palmaire, Jr." evaporative cooler that can also be used as heater, humidifier, or fan.

Penguin Sales 513
New self-service aisle cabinet, diary display cabinet, ice cream cabinet.

Penn Brass & Copper Co. .. 712, 714
Niagara Foot Vibrators will give relief to aching feet while viewing brass and copper products and aluminum extrusions.

Penn Controls, Inc. 204
First display of air conditioning panel assemblies, Series 277 cooling tower control. Showing complete line of mechanical cooling controls.

Pinnacle Equipment Corp. 924
New model "Tri-Tier" vegetable cases, both single and double duty.

Power-Freze, Inc. 941
Displaying the new "Condens-O-Vap, combination compressor and evaporative condenser. Also "Air-Koil" air handling unit.

Primum Co. 507
New ⅛ hp. dehumidifier system. Also beverage cooler system, milk cooler system, central cooling system, coils, and coil assemblies.

Pyramid Instrument Corp. 816
New "Amprobe Jr." volt-amp. tester. Snap-around volt-ammeters.

Quiet-Heet Mfg. Corp. 715
Debut of 1954 "Quiet-Kool" room air conditioners.

Ranco Inc. 619
Replacement controls, commercial refrigeration controls, and controlling devices for household defrosting and air conditioning.

Reading Tube Corp. 649
"Lektro-Seal" copper refrigeration tube.

Redmond Co., Inc. 208
New Type AY motors incorporating "Tri-Flux" principle and featuring "Uni-Cast" design. Some applications shown.

Refrigeration Appliances, Inc. ... 721
"Fan-E-Fex, Jr." and "One-Eighty" unit coolers and ceiling mounted evaporative condenser displayed for first time.

Remco, Inc. 105
Debut of new line of "Super-Flo" filter-driers, new line of accumulators, and accumulator-driers. Also displaying "Cross-Flo" filter-driers, "E-Z-See" liquid indicators, liquid flow indicators, and "Frost-tite" flare nuts.

Remcor Products Co., Div. of Refrigeration Maintenance Corp. 812
"Cooler Cub" water cooler and "Force-Flow" liquid coolers on display.

(Concluded on next page)

JE

SOLENOID VALVES...

...Control the Personalized AIR CONDITIONING of Galveston's HOTEL GALVEZ!

Overlooking the blue waters of the Gulf of Mexico, stately Hotel Galvez is one of Galveston's most famous resort Hotels. Completely modern guest rooms with radio and television, the superb food, and private swimming pool for guests, are three of the reasons guests return year after year.

Of course, each room at the Galvez has personalized air conditioning, and Decker & Roberts, contracting engineers of Fort Worth, Texas, chose JE Solenoid Valves to provide this individual temperature control.

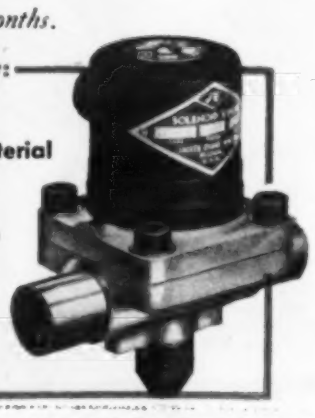
JE Solenoid valves, installed in each unit, provide quiet, reliable temperature control for each room.

Unconditionally guaranteed for 18 months.

All JE Solenoid Valves have these five Major Features of Dependability:

- Tight Seating—no bubble tolerance
- Long Life—cool coils
- Simplicity—only two moving parts
- Durability—all corrosion-resistant material
- Opening Pressure Differential—higher than most others on the market

See your Local Refrigeration Wholesaler, or write us today for details.



JACKES-EVANS MANUFACTURING COMPANY
CONTROLS DIVISION
4427 GERALDINE AVE. ST. LOUIS 15, MISSOURI

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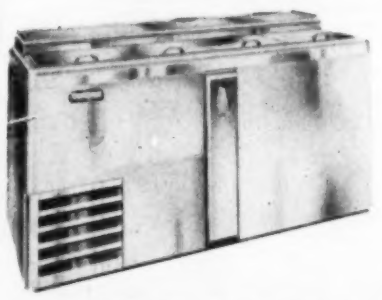
BOTTLE COOLERS
for every installation!

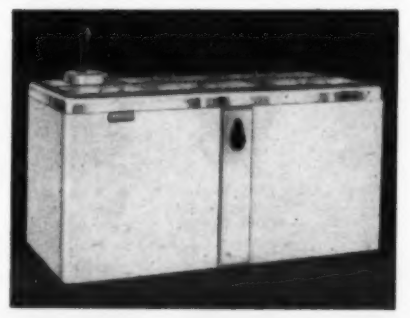


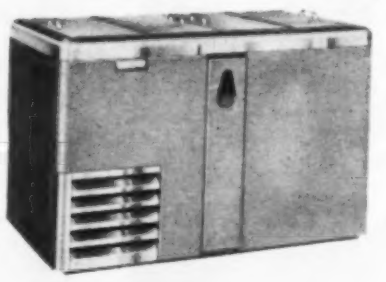
COMMERCIAL TYPE

Available in 16 different models, with capacities from 12 to 30 cases of twelve ounce bottles in completely self-contained cabinets, ready to-plug-in, and remote cabinets (less refrigeration units) with capacities of 16 to 34 cases. One series features all stainless steel tops, balance of exterior in either stainless steel or tan hammerene enamel; a budget series features all baked-on enamel exterior finish, except lids and top railing which is stainless steel. All are equipped with the Beverage-Air heavy duty forced air cooling system. Model BC63-S, stainless steel exterior, shown here.

WET OR DRY TYPE CAFETERIA COOLERS

Available in two sizes, 48 and 63 inches long with capacities for 12 and 19 cases of six ounce bottles. All models are complete with ¼ H.P. Hermetic units and can be used for either wet-or-dry cooling by a simple turn of the control knob. Lids and top railing in polished stainless steel, balance of exterior in white enamel or stainless steel. Other colors optional. A cooler of quality for school and other institutional or dairy use. Model CA63-SW, white enameled exterior, shown here. Water station optional on all models.





DRY TYPE CAFETERIA COOLERS

Available in two sizes, 48 and 63 inches long with capacities for 18 and 24 cases of six ounce bottles. Interior is offset at compressor housing allowing greater capacity . . . . . equipped with the Beverage-Air heavy duty forced air cooling system. Lids and top railing in polished stainless steel, balance of exterior in tan hammerene enamel or stainless steel. Other colors optional. Designed primarily to accommodate volume sales where floor area is at a premium. Model CA48-S, tan enameled exterior, shown here.

WRITE TODAY FOR DETAILS

The wide selection of cabinet styles, capacities and types coupled with Beverage-Air Super Cooling performance provide the utmost in modern refrigeration for cooling bottled and packaged goods. All cabinets feature polished stainless steel lids and top railing with welded corners ground smooth to a matching finish adding years to the appearance and quality. . . . there's a Beverage-Air Bottle Cooler to suit every installation.

THE PUNXSUTAWNEY CO. PUNXSUTAWNEY, PA.

More All-Industry Highlights

(Concluded from Preceding Page)

Remington Corp. 226
Bowing 1954 line of room coolers.

Reynolds Metals Co. 930, 934
New all-aluminum evaporators and condensers for room coolers. Aluminum evaporators, pans, trays, and liners for refrigerators. Aluminum liner panels, and cold plates for freezers.

Robbins & Meyers Co., Inc. 752
New ¾-ton room air conditioner. Air conditioning motors to 125 hp. with operating display to dramatize unique "weatherizing" treatment. Production line electronic torque testing device.

Rochester Products Div., General Motors Corp. 653
2,000 ft. coils of steel tubing for condensers, evaporators, connector lines. Shows advantages of copper plated steel tubing, "Fuse-Kote" finished tubing.

Scottish Tool, Die, & Metal Products Co. 910
Short run die to cut tooling time by ⅓ over standard punching tools.

Sealed Unit Parts Co., Inc. 808
First oil additive for refrigeration industry—"Supco 88"—with test demonstration.

Selmix Dispensers, Inc. 727, 828
Three new manually operated, self-contained, mechanically refrigerated carbonated drink units. Also carbonator, cooler compressor unit.

Servel, Inc. 200
Operating demonstration of "Supermetic" steelcase hermetically sealed condensing units. Technical data manuals available.

Sherer-Gillett Co. 809
"Mr. 4-by-4" refrigerated display table, self contained reach-in refrigerator are new. Also showing general purpose display case for small market.

Spencer Thermostat Div., Metal & Controls Corp. 940
New "Klixon" hermetically sealed automatic defrost thermostat, manual initiation-automatic termination defrost thermostat, thermostat limit switch for air conditioning.

Sporlan Valve Co. 401
New additions to Sporlan line of refrigerant controls and "Catch-All" filter-driers. New crankcase pressure regulating valve.

Square D. Co. 937
Demonstrating "quick-trip" thermal overload heater for hermetically sealed compressor motors. Showing complete line of electric motor control and distribution equipment.

Standard Refrigeration Co. 304
New water cooled condensers, standard capillary valves, and stainless steel household evaporators.

Sub-Zero Freezer Co., Inc. 509
New line of freezers, new room air conditioner. Cascade and spray type milk coolers and line of Whitewater pumps on display.

Sun Oil Co. 811
"Lubrication Clinic" to answer your questions on the subject.

Superior Valve & Fittings Co. .. 125
Improved and refined designs of packless valves, liquid indicators, heat exchangers, and other accessories.

Swift Mfg. Co., Inc. 935
Fan blades and pulleys.

Tecumseh Products Co. 600, 604
New ¾-hp. single-cylinder compressor for air conditioning, new twin-cylinder FFA compressor for automotive air conditioning, baseless high side, ⅛ and ⅙-hp. pancake compressors and adjustable slant static units, 1½-hp. twin-cylinder air conditioning compressor, and new line of twin-cylinder integral horsepower hermetics.

Temprite Products Co. 209
New "Bantam-100" self contained carbonator, pressure type compartment drinking water cooler, new "Freon-22" system oil separator line. Redesigned water coolers, cooler carbonators, instantaneous beer coolers, "Freon-12" system oil separators, and remote-type liquid coolers.

Tenney Engineering, Inc. 219
Large low temperature chamber in operation. New design in semi-circular unit coolers, compact V-shaped unit for back bars and reach-ins.

Texas Co. 205
"Texaco Capella" oils for refrigeration equipment.

True Mfg. Co. 834
Displaying 10-ft. stainless steel beverage cooler, 6-ft. baked enamel cooler.

Tyler Refrigeration Corp. 601
"Rolling Cold" packaging conveyor for meats, new continuous open frozen food and ice cream display case, and sectional storage freezers.

Typhoon Air Conditioning Co., Inc. .. 639, 641
Complete information on self-contained units, heat pumps, and residential year-round units.

United Mfg. & Service Co. 425
Revamped "Unitwire" test cord. Imaginary tour of Unilectric plant conducted by "Miss Unilectric."

United Refrigerator Co. 305, 400
Two new upright freezers, innovation in "Koolmaster" direct draw beer dispenser, new bulk milk dispenser, plus regular lines.

United States Air Conditioning Corp. 504
1954 window type room air conditioner with "revolutionary" design change, redesigned store conditioner, and cooler to combine with warm air furnace.

Velocity Power Tool Co. 502
Pistol-shaped "Century Torch-O-Matic" air-acetylene soldering torch and power driver with permanent spall shield are featured.

Victor Products Corp. 612
New chest type "Quickfreezer," vertical freezer with inner doors, and ½ and ¾-hp. room air conditioners. Also dehumidifier, display merchandiser, front opening milk cooler, beverage cooler with bar top, and reach-in refrigerator.

Virginia Smelting Co. 332
Refrigerants, refrigeration oil, sealing and insulation materials, and a degreasing solvent on exhibit.

Henry Vogt Machine Co. 916
A 2,000-lb. package unit tube-ice machine in operation. Also a line of refrigeration valves and fittings.

J. H. H. Voss Co., Inc. 563
Replacement valves for worn and inefficient air, gas, and ammonia compressors.

Wabash Mfg. Co. 555
Blow-up of new "Blue Streak" drier. Display of complete line of accessories.

Wagner Electric Corp. 432
Demonstrating advantages of increment starting of squirrel-cage motors. Showing 3-step motor-starter combinations plus selected motors for air conditioning and refrigeration.

Warren Co., Inc. 841
New "Profit King" frozen food display case, island merchandiser, open meat case with rear storage, sliding door wall refrigerator. Reshowing sliding door display and storage case for produce and dairy.

Westinghouse Electric Corp. 323, 327
New line of window-type room coolers, new line of water coolers, and dehumidifier.

White-Rodgers Electric Co. .. 313, 317
Operating display of ice bank control operated by thickness of ice bank rather than temperature. Complete line of temperature and pressure controls.

Wilson Refrigeration, Inc. 627
Featuring "Zero-Tank" bulk milk cooler. Showing front opening milk cooler in operation, 30-cu. ft. sectional storage freezer, 60-cu. ft. sectional bakery freezer, and home freezer line.

Wolverine Tube Div. Calumet & Hecla, Inc. 218
First showing of "Spun End Strainer" with increase filter area. Also showing copper tubing, "Capilator" restriction tube, "Trufin" integral finned tubing, spun end and fabricated tubular parts, and aluminum, copper, brass, and electric welded steel tubing.

York Corp. 213
New 2-hp. air cooled residential air conditioner for use with forced air furnace. Also showing room cooler with heat pump, automatic ice maker, two hermetically sealed condensing units, and accessory equipment and maintenance products.

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Commercial Sales

Data on Detroit Installations In First 6 Months, 1953 Shows 660 Units In 445 Establishments

DETROIT — Installations of commercial condensing units in the city of Detroit totaled 660 in the first six months of 1953.

This was determined by AIR CONDITIONING & REFRIGERATION NEWS in a study of installation permits issued by the city's Department of Buildings and Safety Engineering.

These do not cover the metropolitan Detroit area but only those installations in the city proper which are under the jurisdiction of the department.

The tabulations of the six-month installations compare the sales by months for the past four years, give the size of installations, the makes, the contractors, and where the units, were installed.

Commercial refrigeration installations in the first six months this year ran well behind those for the same period in previous years.

The half-year total of 660 for the current year compares with 802 in the same period of 1952, 925 in 1951, and 1,090 for the first half of 1950.

It would seem likely, then, that the total installations for the current year will be the lowest in the past several years.

The month-by-month analysis shows that May was the biggest in the first half of 1953, 161 commercial units having been installed then. This was well ahead of May in both 1951 and 1952.

In only one other month, however, did 1953 exceed 1952. There were 107 units installed in June this year compared with 95 in June of last year.

Installations in January were off 24 units; February, off 24; March, off 22; April, off 111.

Another of the accompanying tables gives a breakdown of the installations in the first six months by size as well as by month. This shows installations of 92 ⅓-hp. machines, 126 ½-hp., 119 ¾-hp., 93 1-hp., 67 1½-hp., 84 2-hp., 41 3-hp., 10 5-hp., and 28 machines over 5 hp.

The latter include 10 7½-hp. units, two 10's, six 15's, three 20's, three 30's, and four 50's.

In nearly all sizes, the six-month figures were less than half of the full-year totals for 1952. Exceptions are the 2, 3, and over 5-hp. classifications.

As last year, the ½-hp. size is the leading size in the first six months. The ¾-hp. unit is second whereas in 1952 the ⅓-hp. unit was second. The 1-hp. unit is third with 93; the ⅓ next with 92.

A comparison of installations according to make is also provided for the six-month period of 1953. Here the makes are ranked A, B, C, etc., according to number of units installed. The table also permits a comparison of standing in three previous years—1950, 1951, and 1952.

This table shows that the leading make, A, is represented by 104 units at the half-year point; B is a neck-and-neck second with 103, while in third place is C with 69. D is fourth with 52; E fifth with 41, and F sixth with 37, closely followed by G and H with 36 each, and I with 34.

For the three preceding years, the table gives the corresponding rank of each make listed. Make A, for example, was first (A) in 1950 and second (B) in 1951 and 1952. Make B was second in 1950 but first in 1951 and 1952.

Make C (1953) has improved its position from previous years, having been ranked as F in 1950 and D in 1951 and 1952.

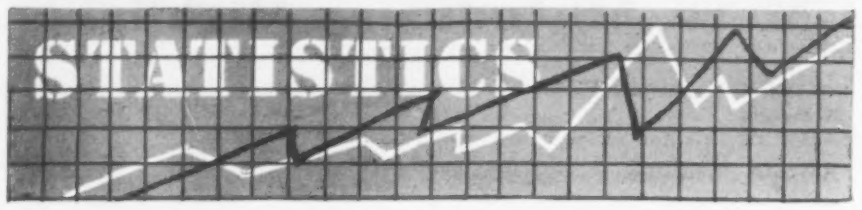
Perhaps the biggest change in rank involves make L, which has a total of 23 units in the first six months this year. In the three previous this line had been in third place as C.

No single make has kept the same position for all four yearly periods listed in the table, although there

(Concluded on next page)

Sales by Month

Month	1950	1952	1952	1953
January ...	198	121	106	85
February ..	130	121	125	101
March	175	190	131	109
April	181	172	205	94
May	236	157	140	161
June	170	164	95	107
Total	**1,090**	**925**	**802**	**660**



Where Commercial Refrigeration Units Were Installed In Detroit In 1952 and 1953

	1952		1953 (6 mos.)	
	No.	Units	No.	Units
Apartment house	6	8	2	2
Bakery and bakery shop	37	40	13	15
Banana storage	....	....	1	2
Baseball stadium	....	....	2	3
Beer store	22	25	6	8
Bottling plant	1	1	1	1
Bowling alley	2	4	....	....
Brewery	2	2	....	....
Cafeteria	5	9	....	....
Caterer	3	6	2	2
Cemetery	1	1	....	....
Clinic	....	....	1	1
Club	7	8	3	3
CO_2 charging system	2	2	....	....
Confectionery	6	6	5	5
Convalescent home	1	1	....	....
Dairy	16	21	5	6
Dairy bar	26	41	2	3
Dance hall	1	5	....	....
Delicatessen	....	....	1	1
Department store	9	14	1	3
Dime store	....	....	3	4
Drug manufacturing	4	6	5	10
Drugstore	12	21	8	14
Drug wholesaler	1	1	....	....
Factory	15	22	1	2
Fish market	4	5	2	2
Fish Wholesaler	....	....	1	1
Florist	30	32	7	8
Food processing	1	2	....	....
Food store	499	746	199	317
Food wholesaler	8	14	1	1
Frog freezing	....	....	1	1
Fur vault	1	1	....	....
Greenhouse	1	1	....	....
Hall	5	8	....	....
Hospital	29	150	11	18
Hotel	5	24	4	8
Humane society	....	....	1	1
Ice cream store	....	....	23	35
Ice dispenser	....	....	1	2
Ice plant	1	1	....	....
Ice rink	....	....	1	3
Ice vendor	3	3	....	....
Laboratory	1	3	....	....
Liquor store	....	....	1	1
Meat packer	9	12	1	2
Meat processor	....	....	1	3
Newspaper	1	1	....	....
Newspaper photo laboratory	....	....	1	1
Nurses home	....	....	1	1
Office	3	4	....	....
Poultry market	4	4	6	6
Poultry wholesaler	....	....	1	1
Restaurant	109	125	49	54
Sausage manufacturing	2	2	3	3
School	1	2	1	1
Soup dispensary	....	....	1	2
Stadium	1	13	....	....
Store (unspecified)	1	1	2	7
Tavern	95	116	42	50
Telephone Co.	3	6	2	7
Theater	8	9	8	11
Utility office	1	2	....	....
University medical school	....	....	1	12
Unknown	1	1	....	....
Warehouse, cold storage	2	2	2	4
Wholesale meats	....	....	8	12
Total	**1,008**	**1,534**	**445**	**660**

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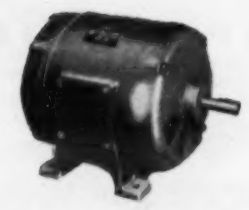
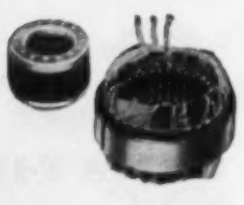


Delco Integral HP Motors. Single-phase, repulsion-start, 1 through 15 hp. Polyphase, 1 through 100 hp.

Delco Single-phase, Fractional HP Motors. Capacitor-start for blowers and open-type compressors, ⅙ through ¾ hp. Repulsion-start, ½ through ¾ hp.



Delco Hermetic Motors. Split-phase, capacitor-start, capacitor-start-and-run. Also polyphase. ⅛—15 hp.

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Unsurpassed for beauty, performance . . . price!

Sizes available for every need.

Ace Cabinet Corporation
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99 Contractors Shared Detroit Sales--

(Concluded from preceding page)

are some which have not varied much.

An analysis was also made of the number of units installed by each contractor during the first half of this year. The 660 units put in during the period were installed by 99 different contractors.

Unit Installations by Make

A	104	A	B	B
B	103	B	A	A
C	69	F	D	D
D	52	D	I	H
E	41	H	H	E
F	37	R	K	N
G	36	E	E	F
H	36	J	L	G
I	34	G	J	P
J	32	I	G	I
K	24	L	F	J
L	23	C	C	C
M	20	M	N	L
N	10	K	M	K
O	7	N	U	S
P	6	*	O	W
Q	6	U	Q	R
R	6	S	T	Q
S	4	Q	S	O
T	3	O	R	T
U	1	*	W	U
Others	6	..	..	..
Total	**660**			

*Included in "Others."

Largest number was installed by contractor A, who handled 55 units or 8.3% of the total. In second place was B with a total of 50 units for 7.6%.

The other contractors ran well back of the top two, C having 29 units for 4.4%; D, 27 for 4.1%; E and F each 25 for 3.7%; G, 24 for 3.6%; and H, 23 for 3.5%.

At the bottom of the list were 27 firms who installed one unit apiece in the first six months; 17 who installed two each; 15 with three each, four with four apiece; and two who installed five each.

As in similar studies made of Detroit installations in the past, a few contractors get the big share of the business.

It will be seen that the top 10 firms (A through J), who represent 10.1% of the 99 contractors involved, accounted for almost half of the business—292 units or 44.3%.

Average number of units per contractor was 6.7. There were 30 firms above the average, 69 below.

Fifth table in the series shows where commercial units were installed in 1952 and the first six months of this year. The 660 units installed in the first half of 1953 went into 445 different establishments.

Biggest user, as usual, was the food store group, 199 stores getting 317 units. This compares with 499 stores installing 746 units in the 12-month period of 1952.

Second and third biggest buyers were restaurants and taverns, respectively, 49 restaurants installing 54 units; 42 taverns, 50 units. These two classifications also ranked second and third in 1952.

Other buyers in 1953 include 13 bakeries, six beer stores, five confectioneries, eight drugstores, seven florists, 11 hospitals, 23 ice cream stores, six poultry markets, eight theaters, as well as eight meat wholesalers.

In addition there were such applications as three units for an ice rink, one newspaper photo laboratory, one banana storage job, 10 units for drug manufacturing, and one for a poultry wholesaler.

How Contractors Shared Installations

Contractor	No. Units	%
A	55	8.3
B	50	7.6
C	29	4.4
D	27	4.1
E	25	3.7
F	25	3.7
G	24	3.6
H	23	3.5
I	17	2.6
J	17	2.6
K	16	2.4
L	16	2.4
M	15	2.3
N	14	2.1
O	12	1.8
P	12	1.8
Q	11	1.7
R	11	1.7
S	11	1.7
T	10	1.5
U	10	1.5
V	10	1.5
W	10	1.5
X	9	1.4
Y	9	1.4
Z	8	1.2
AA	7	1.1
BB	7	1.1
CC	7	1.1
DD	7	1.1
EE	6	.9
FF	6	.9
GG	6	.9
HH	6	.9
2 installed 5 ea.	10	1.5
4 installed 4 ea.	16	2.4
15 installed 3 ea.	45	6.8
17 installed 2 ea.	34	5.2
27 installed 1 ea.	27	4.1
Total 99	660	100.0

1953 Detroit Commercial Installations by Size by Month

Month	⅛-hp.	½	¾	1	1½	2	3	5	Over 5*	Total
January	12	21	26	4	8	10	4	....	....	85
February	17	18	19	15	8	10	10	..	4	101
March	19	20	19	17	11	12	6	2	3	109
April	16	16	13	21	9	3	5	4	10	97
May	14	30	21	19	18	43	10	3	3	161
June	14	21	21	17	13	6	6	1	8	107
Total	**92**	**126**	**119**	**93**	**67**	**84**	**41**	**10**	**28**	**660**

*Includes 10 7½-hp. machines, two 10's, six 15's, three 20's, three 30's, and four 50's.

UsAirco Appoints Murray Sales Promotion Manager

MINNEAPOLIS — Appointment of Walter R. Murray as sales promotion manager of United States Air Conditioning Corp. has been announced by L. P. Hanson, vice president in charge of sales.

W. R. Murray

Murray was formerly with Vance Pidgeon & Associates advertising agency, Minneapolis. Prior to that he was with the Merchandising Div. of Minneapolis-Honeywell Regulator Co.

West Penn Room Cooler Sales Up 196% In Sept.

PITTSBURGH — September room cooler sales in the southwestern Pennsylvania territory served by the West Penn Power Co. increased 196% over the same month of 1952.

The 68 units sold during the month was the highest on record for September. Only 23 were sold last year.

Clothes dryer sales also set a record for September, with 614 units sold. This was 31% higher than the 467 dryers sold in September, 1952.

Water heater sales rose 55% over last year, dishwasher sales 20%, garbage disposers 13%, refrigerators 8%, and ranges 6%. Conventional washer sales slipped 1% behind last year, freezers 4%, automatic washers 8%, and ironers 46%.

Comparative unit sales for September and a year ago are as follows:

Appliance	Sept. 1952	Sept. 1953
Refrigerators	1,348	1,453
Freezers	360	346
Room Coolers	23	68
Ranges	780	828
Garbage Disposers	24	32
Dishwashers	46	55
Clothes Dryers	467	614
Ironers	159	86
Automatic Washers	672	618
Conventional Washers	1,262	1,251
Water Heaters	318	* 492

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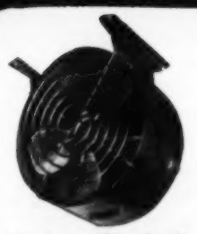

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Here is today's outstanding refrigeration value. The Peerless Pie Plate Coil Unit delivers maximum efficiency because it utilizes *all* of the cooling surface. Its compact design permits it to fit into less space.

The power-packed *round* coil of improved evaporator design is ideally suited for use in soda fountains, direct draw bars, reach-in refrigerators and similar cooling applications. It has all-aluminum casing and brackets; aluminum fin surface on copper tubing; oilless fan motor. Available in three sizes, with or without drain pan. Write for detailed information.

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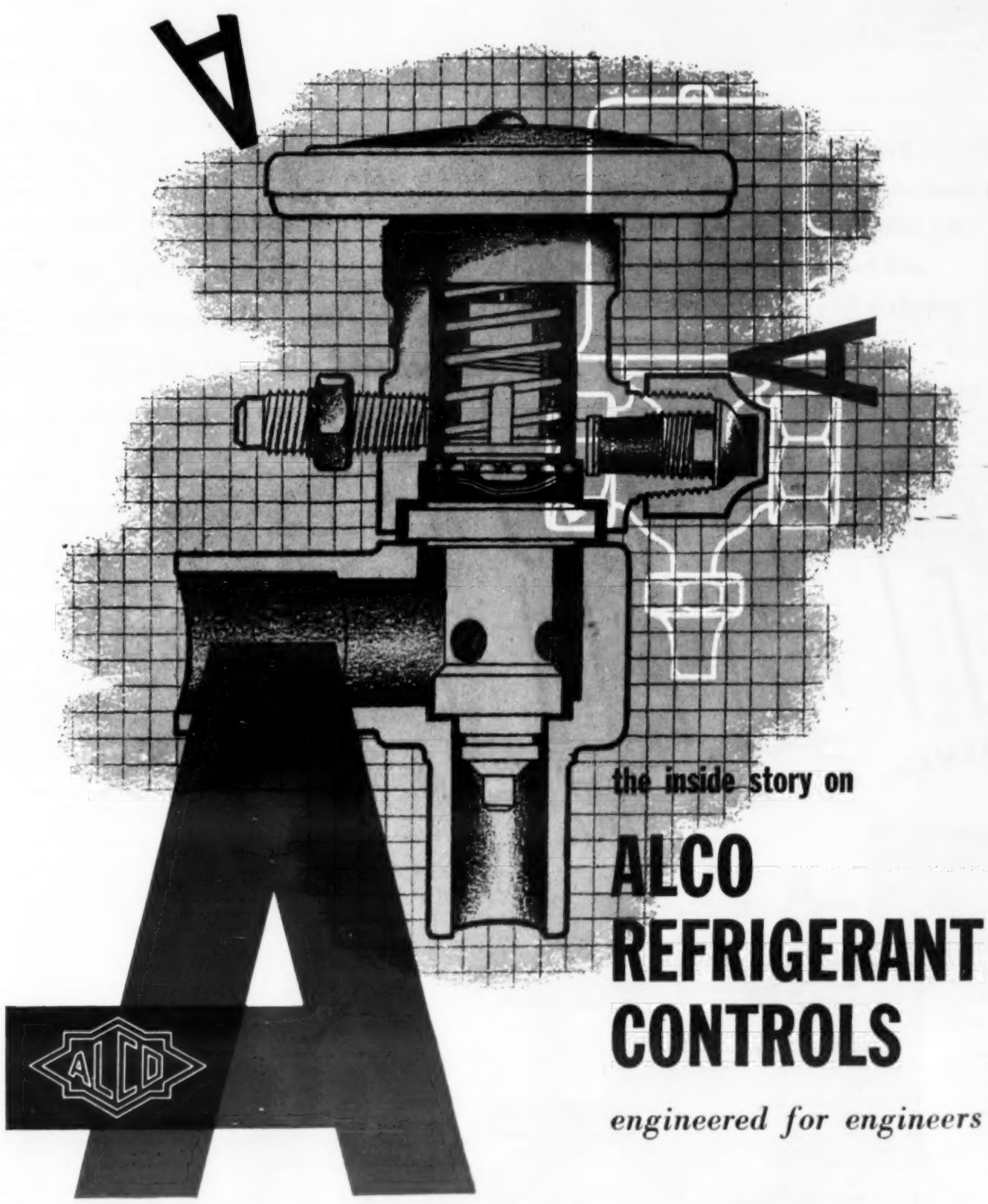

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5791

Poor Refrigeration Care Causes Most Fires In Supermarkets, Fire Underwriters Claim

(Concluded from Page 1)

noticed by the passerby, actually isn't seen until the building is heavily involved, the fire breaking through the roof.

Neale based his talk on a review of supermarket fires that have occurred in the last few years. It showed that the fires started in the utility areas, where, he noted, a large majority of heating appliances, motors, and other potential sources of ignition are located. He said:

"In one way or another, refrigeration equipment has been one of the greatest fire causes in supermarkets. Poor maintenance is mainly responsible. Motors are often neglected and lint, dust, and oil accumulate on them, preventing proper dissipation of heat. Overheated motors often ignite this residue or ignite combustible material that is carelessly placed in contact with, or close to, the motor.

"Some motors overheat when refrigeration cooling coils are permitted to get dirty and clog up. In other cases, slipping drive belts create sufficient friction to start fires.

"Some troubles occur when bearings overheat from lack of lubrication. Isolation of this common source of fire would no doubt be instrumental in saving many supermarkets."

Neale observed that smoking by employes in the utility section is another cause of fire. "Discarded or forgotten cigarettes are believed responsible for a number of large fires," he said.

Other causes are faulty incinerators, air conditioning systems that spread fire and smoke from the utility area, unsatisfactory handling of combustible refuse, tampering with electrical wiring, and lack of proper employe education in fire protection.

In conclusion, Neale said that the only real protection for the huge supermarket of combustible or mostly combustible construction is automatic sprinklers.

"A standard complete system of automatic sprinklers, while not eliminating the need for safeguarding hazards, nevertheless reduces the seriousness of large combustible areas and lessens the potency of the various fire hazards," he declared.

As an appendix to his talk, Neale distributed a set of recommendations to reduce fire hazards. These covered location and site, construction and protection, safety to life, potential fire causes, and employe responsibilities.

His recommendations follow:

Location and Site

1. That before a site is definitely chosen, a careful study be made of public fire protection available, and if found weak and incapable of substantial improvement, that alternate sites be considered.

2. That, except along unpierced walls, auto parking be prohibited within a 20-ft. strip immediately adjoining unsprinkled markets.

Construction and Protection

1. That the supermarket be either:

a. Built of fire resistive construction throughout; or—

b. Protected by a complete, standard system of automatic sprinklers; or—

c. Built with a parapeted fire wall separating the sales area from the utility area, with standard fire door protection at all wall openings, and with a complete standard automatic sprinkler system installed in the utility area.

2. That, regardless of which alternative is chosen under Recommendation 1 immediately above, automatic sprinklers be installed:

a. In all basements exceeding 3,500 sq. ft. in area; and—

b. In windowless type markets.

3. That all openings in floors above basements, and other floor openings used for stairways, elevators, dumbwaiters, chutes, or other purposes be enclosed within fire retardant partitions, with self-closing or automatic fire doors at openings in such partitions.

4. That combustible building material be limited as follows:

a. In unsprinklered markets, that all interior finish materials used in ceilings and walls be of fire retardant materials or be treated to render them flame retardant;

b. In unsprinklered, non-fire resistive markets, that all structural members, walls, partitions, and floors, except for floor surfacing, trim, and doors, be of incombustible materials or be protected by not less than one-hour fire resistive construction, or be treated to render them flame retardant.

Note: For the purpose of this Recommendation, a flame-retardant treatment shall be considered effective if it is listed by Underwriters' Laboratories, Inc., and has a flame spread rating of 50 or less. Details should be obtained from the fire insurance rating bureau having jurisdiction.

5. That the hazard of attic spaces in unsprinklered non-fire-resistive buildings be reduced by:

a. Subdividing such spaces into areas not exceeding 3,000 sq. ft., by well supported and tight draft stops made of a double layer of 1-in. lumber or the equivalent, with self-closing access doors of similar construction.

Note: Draft stops may be eliminated if all combustible material within the attic space is treated to render it flame retardant. (See note under Recommendation 4.)

b. Excluding the use of readily combustible thermal insulation materials, including vapor seals.

6. That first aid fire appliances, such as fire extinguishers and standpipe and hose systems, be installed in such numbers and types as provided for in National Board of Fire Underwriters' Pamphlets No. 10 and 14.

Potential Fire Causes

1. That refrigeration equipment be safeguarded by:

a. Installation of equipment in a ventilated enclosure, on the outside of the exterior wall of the building; or in a ventilated interior room of 1-hour fire resistive construction, with a self-closing fire door at the opening.

b. Erection of a suitable guard such as a wire cage completely surrounding the equipment, to insure adequate air circulation and to prevent contact with or dangerous proximity to combustible materials.

c. A regular maintenance service of cleaning, inspection, and lubrication, with a service record kept of each unit or piece of equipment.

2. That motors of refrigeration, air conditioning, and other equipment be provided with overheating protective devices of a type listed by Underwriters' Laboratories, Inc.

3. That electrical wiring and equipment be installed in accordance with the National Electrical Code, and that any extensions or alterations be made strictly according to code provisions by competent professional electricians.

4. That heating and air conditioning equipment and flues be:

a. Installed in accordance with National Board of Fire Underwriters' "Building Code Standards for the Installation of Heat Producing Appliances, Heating, Ventilating, Air Conditioning, Blower, and Exhaust Systems," and the National Building Code, Article X, especially as regards to clearances from combustible materials.

b. Installed in easily accessible locations and not in attic or similar concealed spaces.

c. Installed with heat or smoke-actuated devices which will close dampers in ducts and shut off duct system blowers in case of fire.

5. That the hazard of incinerators be reduced by:

a. Erecting the incinerator outside the building, or erecting it inside within a special room of not less than 1-hour fire resistive construction, with self-closing fire door at the opening.

b. Constructing the incinerator according to nationally recognized standards (National Board of Fire Underwriters' Pamphlet No. 82), erecting it with proper clearances from combustible construction, and maintaining a high standard of workmanship in construction.

6. That the hazard of combustible refuse be lessened by:

a. Providing outside the building an incombustible refuse storage bin or a fenced area, or providing within the building a special storage room for refuse of at least 1-hour fire resistive construction, with self-closing fire door at the opening.

b. Strictly enforcing "No Smoking" regulations in rooms or areas having combustible refuse.

c. Promptly collecting refuse as it accumulates and depositing it in the proper bins or rooms.

7. To reduce the hazard of smoking:

a. That smoking in the utility room be prohibited except in specified rooms or areas especially prepared and safeguarded, with "No Smoking" and "Smoking Prohibited" signs properly posted, suitable and sufficient ash trays provided; and that smoking restrictions be rigidly enforced.

b. That in the sales area, sufficient ash trays or other ash and match disposal containers be placed in locations convenient for customers.

Employes' Responsibilities

1. That employes be instructed, by use of both printed material and group discussions, in the following:

a. The proper operation of incinerators and of heating, refrigeration, and air conditioning equipment.

b. Maintenance and cleaning procedure necessary to keep equipment operating safely.

c. Maintenance and recharging of fire extinguishers, and maintenance of other fire extinguisher equipment.

d. Routine and special housekeeping duties to prevent hazardous accumulations of rubbish.

2. That a procedure for fire emergencies be developed, the following duties to be included:

a. Notifying the fire department;

b. Facilitating egress of occupants; and

c. Putting into use private fire protection devices.

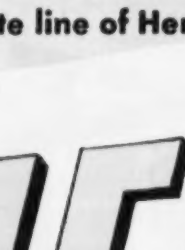
3. That specific duties covered by Recommendations 1 and 2 be assigned to individual employes.

Note: To carry out and maintain the actions covered by Recommendation 1, 2, and 3 above, it is suggested that each market be placed in the direct and personal charge of a man considered to be at least of a minor executive level, who is charged with the responsibility of carrying out the above actions, and who has sufficient authority to act on these matters without consulting others.

Every Henry Valve, Drier and Strainer
is constantly being improved to retain
the confidence of the Air Conditioning
and Refrigeration Industry in the
complete line of Henry products.

HENRY
VALVES, DRIERS & STRAINERS

Relief Valve


Wing Cap Valve

Drier

Ammonia Valve

Packless Valve With Balanced-Action Blue Bantam Type

Packless Valve With Balanced-Action Standard Type

"Y" Strainer

Angle Type Drier

HENRY VALVE CO
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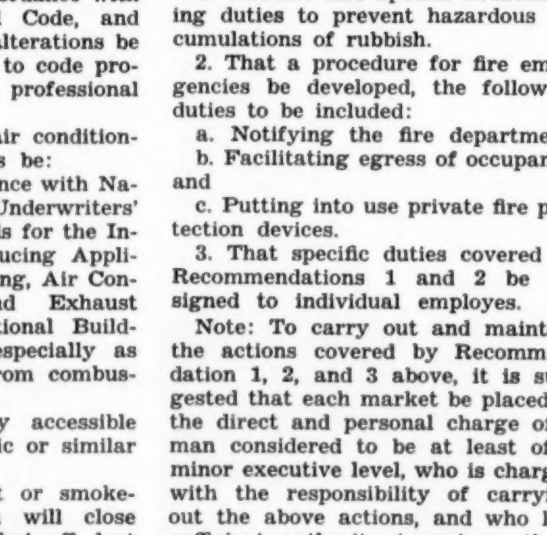
AIR Conditioner COVERS

The market's everywhere, ready and waiting, and ever-growing for these new International Air Conditioner Covers. Every air conditioner needs one — no owner can do without it — protects against rain, snow, rust, drafts and dirt—saves costly servicing and repairs. Fits all air conditioners (21 custom made models to choose from). Attaches in a jiffy — fits perfectly. Waterproof, flame-resistant, self-extinguishing. Neutral tone durably stitched with black plastic binding and reinforced with stitched-in metal stays.

Individually boxed in envelope type package. To retail from $6.45 to $8.45.



Write for price list.

INTERNATIONAL AIR CONDITIONER COVER
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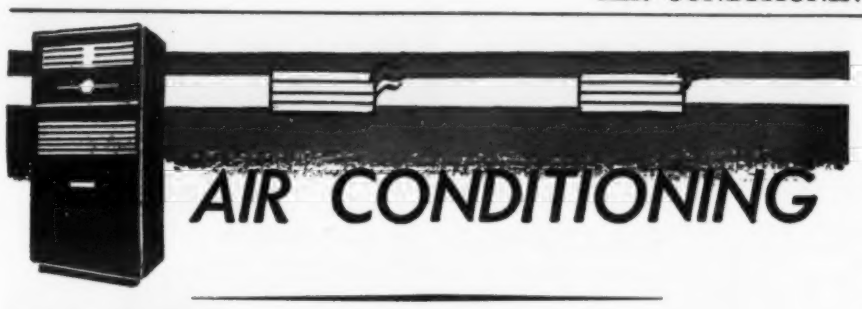


'Your Health'

Dr. Alvarez Discredits Belief That Sudden Cooling by Air Conditioning Causes Colds

BY DR. WALTER C. ALVAREZ
Emeritus Consultant in Medicine, Mayo Clinic
and Emeritus Professor of Medicine, Mayo Foundation

AIR CONDITIONERS BOTHER SOME PEOPLE

Some persons complain much about air conditioning. They feel distressed when going in or out of an air conditioned room, and they wonder if the cold air may not be an evil thing. Certainly, it is hard on them.

Luckily for most persons, cool air is not at all harmful to health. The Eskimos, a very healthy people, keep going from their warm huts out into air that may be 30 or 40° below zero.

FALL INTO A GROUP

The persons who in summer are cold-sensitive fall into a certain human group well known to physicians. Many are hypersensitives who are subject to sick headaches, and many react too violently to all sorts of stimuli, such as loud sounds, strong smells, bright lights, and changes in weather.

We all know the type of person with sensitive joints who is such a walking barometer that he can sense a storm coming when it is still 100 miles away.

Many of these hypersensitive people have trouble not only with air conditioned rooms but, also, with slight drafts. Many, when they meet with sudden changes from hot to cold or cold to hot, get changes in the blood supply of the mucous membrane of the nose, changes resembling those of hay fever.

The person may then get to sneezing, and hence he will assume that he is getting a cold. Actually, all he has is a sort of cold allergy.

THEY REALLY SUFFER

Many highly sensitive and impressionable or worrisome women, when in an air conditioned room, are distressed, also, because no window is open. They say the place is stuffy, and they want to feel sure that some air is circulating.

By lighting a candle and noting that the flame bends far over to one side or the other one can easily show that there is a good current of air going through the room, but still the woman feels distressed: She may even feel that she is strangling for lack of oxygen. I have sympathy with these people because no matter how illogical their behavior may seem to an insensitive person, they suffer.

CAN'T TURN BACK

Naturally, they cannot ask that the hands of the clock be turned backward and air conditioning be given up. Today, especially in the southland, many homes of the well-to-do, and most stores, restaurants, and theaters are air conditioned.

And I am much in favor of this cooling of the air. During a hot summer people can work much more comfortably, and I think, more efficiently, if they are cool. They are less likely to be tired at the end of the day.

What, then, can the hypersensitive people do? I think the big thing is to fight the fear that colds will be induced by cold air.

Much research in England with thousands of volunteers has shown clearly that cold air does not have much to do with producing or making worse real colds.

Sensitive persons must choose between the discomforts due to the heat of summer and the discomforts due to cool air. Better over-all health should go with the cool air.

All cold-sensitive women should carry with them a light sweater or some extra garment to throw over their shoulders.

ODM Sees More Civilian Steel, Copper, Aluminum For First 1954 Quarter

WASHINGTON, D.C.—More steel, copper, and aluminum will be available to consumer goods manufacturers in the first quarter of 1954 as a result of sharp reductions in Office of Defense Mobilization allotments of those metals to direct defense users.

Allotments of steel to military and atomic contractors and subcontractors in the first three months of next year will be 20% less than for the present quarter. Copper and aluminum allotments will be 23% and 18% lower, respectively.

The ODM said the reductions in defense-connected allotments reflect "adjustments in military schedules."

The agency alloted 1,466,840 tons of steel to direct defense users for the first 1954 quarter.

Bulletin Describes Sly Dynaclone Dust Filter

CLEVELAND—A new bulletin describing the new Sly Dynaclone dust filter designed primarily for the continuous process industries where uniform suction at all dust points is essential has been announced by the W. W. Sly Mfg. Co. here.

Air Conditioning Improves Efficiency, Morale In Precision Manufacturing Plant

WESTBURY, Long Island, N. Y.—Employe efficiency and morale under a 20-hour-a-day production schedule in the new Westbury plant of Anchor Slide Fastener Corp. have been substantially increased during the summer months by an air conditioning system utilizing factory-assembled central plant air conditioning equipment and upright store-type air conditioners.

A subsdiary of Anchor Precision Corp., Anchor Slide Fastener moved to its new quarters in the spring of 1953 from a downtown New York City plant, which had no cooling. The company produces machinery which is used for the manufacture of zippers and also does extensive subcontracting work for the nearby Republic Aviation Corp.

Anchor's experience in its former factory indicated that temperatures would run well over 100° on hot summer days when its machinery was in operation. Night shift employes, particularly, exhibited sluggishness and general discomfort during these periods.

The new plant's air conditioning system, as designed and installed by the Mid-Island Utilities Co., of Westbury, utilizes a 40-ton UsAirco self-contained "Refrigerated Kooler-aire" unit, which includes in a single factory-assembled casing all of the elements of a central station system including evaporative condenser. This unit serves the main production section, where it is located.

Conditioned air is distributed by a conventional duct system, and return air is drawn directly from the conditioned area. Fresh air and evaporative condenser supply and exhaust are taken through the adjacent exterior wall.

A UsAirco 7½-ton upright unit supplies a duct system serving the plant offices. Two additional 7½-ton upright units serve two smaller production areas in the rear of the building.

UsAirco Stock Purchased By Employes, Distributors

MINNEAPOLIS — Employes of United States Air Conditioning Corp. and distributors of its products have purchased 33,200 shares of its common stock, under a special offering recently concluded, the company announced.

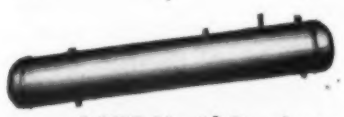
34 years experience stands behind these products . . . it's all yours when you specify Acme air conditioning and refrigeration equipment

Since 1919 Acme has been building units to serve air conditioning and refrigeration fields. During that time they have experimented with thousands of models and installations. On-the-job and in-the-field service has always been the criterion for any design changes Acme makes. Today, Acme has this complete line of commercial refrigeration and air conditioning equipment — the end result of 34 years experience. You gain all this experience for yourself and your customer by the simple act of specifying Acme on your next installation.

FLOW-COLD* Remote Room Conditioner
Designed for the modern recirculated hot or cold water air conditioning systems. Whisper quiet operation with variable air recirculation permits efficient individual zone control.

HI-PEAK* Water Cooler
Seven standard sizes providing large storage capacity and all non-ferrous surfaces in contact with the water.

ACME JCT Cooling Towers
Available for use where compactness counts. An all metal tower completely galvanized for long life. Capacities from 3 to 10 tons.



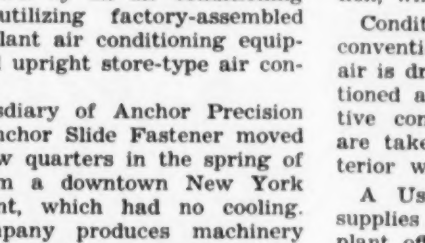
ACME Liquid Receivers
More than 70 standard sizes for Freon, Ammonia, or other refrigerants.

ACME Oil Separators
A complete line of Freon or Ammonia Separators for 1/4 to 100 ton systems.

ACME Heat Exchangers
A complete line of compact, efficient Freon Suction and liquid line heat exchangers. Capacities from 3 to 200 tons.

Write for catalogs on any of the products listed.

DRY-EX* Water Chiller
More than 700 combinations from which to choose, assuring you of the most efficient chiller operation obtainable. Capacities from 5 to 260 tons.

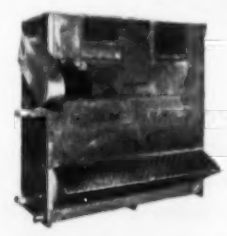


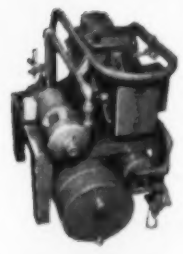
ACME Condensers
More than 120 models and standard sizes of Freon and Ammonia shell and tube and shell and coil types. Capacities from 5 to 700 tons.

BLO-COLD* Industrial Unit Cooler
For vegetable storage, packing plants and low temperature installations. 5 distinct series for either Freon or Ammonia with more than 260 combinations.

ACME Evaporative Condensers
For Freon or Ammonia. More than 30 models from which to choose. Your choice of copper or steel coils. Completely hot-dipped galvanized after fabrication. Capacities from 4 to 130 tons.

ACT Cooling Tower
All metal, hot dipped galvanized induced draft cooling tower. Available with exclusive Acme snug fitting pump for all 16 models. Capacities from 8 to 60 tons.





FLOW-COLD* Packaged Liquid Chiller
A pre-tested liquid chilling unit shipped ready for installation. Matched Acme components for systems of 2 to 15 tons.
Addition of the Acme change over valve results in the Flow-Temp heat pump. A complete heating and cooling system in one compact package.

*Trade Mark

SERVING THE REFRIGERATION AND AIR CONDITIONING INDUSTRY SINCE 1919

ACME INDUSTRIES, INC.
JACKSON, MICHIGAN

They'll Do It Every Time . . . . By Jimmy Hatlo

HI, DINGWELL, OL' BOY! HOW DO YOU FEEL NOW? REMEMBER ME? JOE BARNACLE··· DOWN THE HALL FROM YOU IN THE HOSPITAL··
OH, YEAH··SURE··HOW ARE THINGS WITH YOU NOW?
WHAT KIND OF A HOSPITAL WAS THAT? THAT'S ABOUT THE TENTH GUY WHO'S COME IN FOR A TOUCH OR TO SELL HIM SOMETHING!
DING MUST HAVE MADE LIKE A BIGSHOT···SOME GAL WAS IN BEFORE···WANTED HIM TO ENDOW A NEW WING···
HE GETS CHUMMY WITH THE WRONG PEOPLE··THE PORTER WAS IN···WANTS DING TO GET HIM ON TV!
THE DOC'S OFFICE HAS BEEN PESTERING HIM, TOO···SOMETHING ABOUT A BILL···
JIMMY HATLO
IT'S NOT ALWAYS SAFE TO SAY, "WE MUST GET TOGETHER SOME TIME!"
THANX AND A TIP OF THE HATLO HAT TO VINCENT BRAKESPEARE, JAMAICA, B.W.I.
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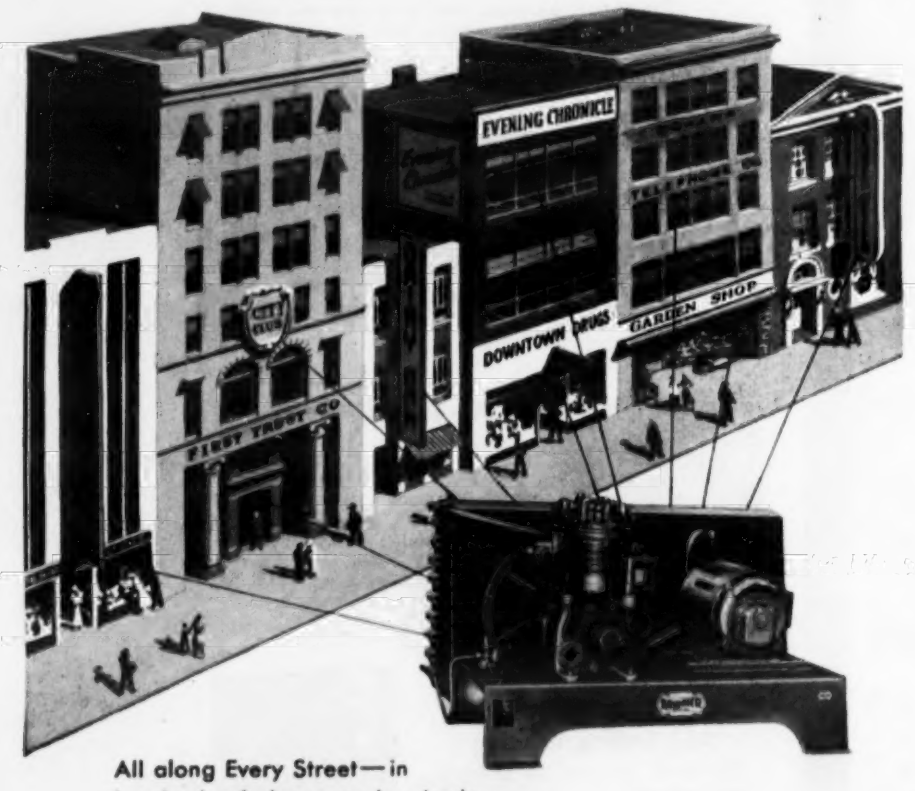
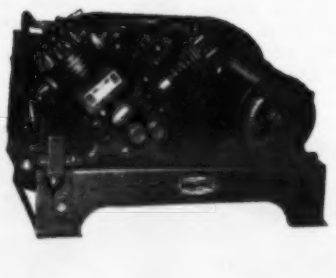
UP the street... DOWN the street...

BRUNNER delivers

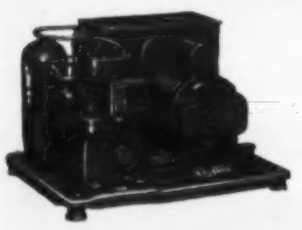
DEPENDABLE REFRIGERATION



All along Every Street—in hundreds of places, on hundreds of different jobs—Brunner equipment is the popular choice of users and servicemen alike for trouble-free, economical refrigeration. One reason, of course, is that Brunner makes the industry's most complete line of open-type condensing units—the *right* model and size for every commercial requirement. Easier to install... easier to service—Brunner refrigeration saves *your* time—and your customers' money!



Brunner's famous slow-speed compressor—heart of every unit—assures LONGER life, LESS servicing, LOWER operating and maintenance costs.



SEE YOUR BRUNNER REPRESENTATIVE . . . see the big Brunner line. You'll see profit opportunities that no other source can give you—the finest equipment, backed by one of the finest service organizations in the refrigeration field. Write us for catalog and complete information . . .

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How To Stop Worrying About "Security"

R. ROY KEATON, Director General of the International Association of Lions Clubs, writes: "One of the finest men I have ever known is a retired minister. He has a brilliant mind, reads constantly, and he genuinely loves people. Recently a grateful friend sent him a check for $50, and suggested he apply it on a new suit for himself. But he used most of the money to take orphaned children for outings in the park."

Hundreds of people visit this retired preacher annually for advice and counsel. A formerly distressed and disillusioned businessman, who had been helped greatly by his sessions with the retired preacher, told Mr. Keaton:

"It is his serene sense of *imperturbability* which works miracles on the lives of perpetually worried people like me."

Im-per-turb-a-bil-i-ty is a strong, pregnant, wholesome concept.

It means a number of things to different people. Examples: A calmness. An emotional maturity. Complete control of one's mental faculties under all circumstances. An ever-sensible presence of mind, and a willingness to be different when the need arises. Rational clearness of judgment in times of confusion or peril. An ability to make sane decisions amid the personal storms and international disturbances which range and rage around us.

Imperturbability is much more than just a long, complex word. It comprises both an attitude and an attainment. 'Tis an *acquired* helpful trait which all of us recognize in truly patient leaders.

We are reminded of Bill Switzer's favorite story about his boss, Herman Lehman (Frigidaire). Some sort of crisis had arisen. Lehman took it calmly. "But Herman, aren't you worried?" Bill exclaimed.

"No. I'm concerned, but not worried."

The ability to accept life's daily trials and vicissitudes without griping is rare. But how important it is! The Golden Rule Attitude—tranquility of mind—aids the unlucky to slough off temporary tragedies. Additionally, it induces humility among the fortunate.

Graciously, imperturbable folk don't take good luck as their Rightful Due. "The best teams get the breaks," sports experts observe. But the best teams have to WORK to become best. Good losers philosophically admit that talent and overtime practice probably *made the difference* in the scoring.

An old Swedish adage advises: "Any sailor can captain a ship when the seas are calm." When crossings are turbulent and rough, though, passengers on an ocean liner feel safer when they know an experienced captain is steering the ship. They're more at ease with a "lucky" Captain, furthermore. And gamblers agree that luck is best wooed by men who've qualified themselves—through experience and by incessant labors.

Most people yearn for stability, poise, balance, and peace-of-mind. The strains and pressures of modern life tend to make us frantic, however. Why not calm down? Why not emulate that retired minister who is so happy and so useful?

The secret of imperturbability is to think about *others,* instead of selfishly trying to grab unearned gains, and worrying about calamities which may not occur. In the words of this retired minister:

"Take it easy, brethren. Don't be so anxious. You'll last longer, and go farther in the long run."

IMPERTURBABILITY is a goal all of us should seek as Men of Good Will.

End of sermon.

Remington Names Moffitt N. E. Regional Sales Mgr.

AUBURN, N. Y.—Appointment of John P. Moffitt as regional sales manager for the Air Conditioning Div. of Remington Corp. was announced here recently by M. L. Judd, general sales manager.

John P. Moffitt

Moffitt will have over-all responsibility for the territories of New York, New Jersey, and New England, including Metropolitan New York, and will take over the operation of Remington's New York office in the Lincoln building, 60 East 42nd St., New York City.

Moffitt joined Remington in 1952 as district sales manager for New England. He formerly was vice president in charge of appliance and air conditioning sales and service for Downes-Smith Co., Stamford, Conn.

Moffitt served with the U. S. Army in the European Theater during World War II as a colonel.

NARDA '54 Convention Set For Jan. 10-12 In Chicago

CHICAGO—Jan. 10, 11, and 12 have been set as the dates for the 1954 annual convention of the National Appliance & Radio-TV Dealers Association, with convention headquarters at the Conrad Hilton hotel here, according to A. W. Bernsohn, managing director.

Keynote speaker at the convention will be Evan Moon of Joske's, San Antonio. Tentative program arrangements are being made, keyed to the two main components of any profitable business: Sales and Management.

Industry leaders with knowledge and personal experience to back up their authority will lead the discussion sessions, and their names will be announced in the near future, Bernsohn said.

He added that the rapidly expanding program of regional meetings throughout the country, with NARDA leaders taking active part, has done much to awaken keen interest in the actions and campaigns of the national groups, and is expected to be productive of the largest convention attendance in NARDA's history.

Nash Tells Store Clinic of Value of Air Conditioning

SPRINGFIELD, Mass. — E. A. Nash, Chrysler Airtemp merchandising manager, was a featured speaker at the recent three-day Store Modernization Clinic sponsored by the Western Massachusetts Electric Co.

Nash cited the advantages of air conditioning to the retail merchant as evidenced by increased sales volume and employe efficiency, greater merchandise turnover, and additional profit.

Also participating in the clinic was the New England Power Co. Meetings were held in Greenfield, Springfield, and Pittsfield, Mass.

Every retail merchant of the New England area served by the two power companies was invited to attend. In addition to air conditioning, topics included modernization of store fronts, window lighting, color and decoration, store traffic layout and design, and general store lighting.

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- *Fast selling*—and *profitable.*

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Distributor Advisory Board Aids Bryant Plans

CLEVELAND—Now entering its third year of existence, Bryant Heater's unique Distributor Advisory Board "has tapped a vast reservoir of field information to help Bryant officials impart vigor and direction to yearly merchandising activities," according to the company.

Commenting on the value of the board, W. H. Wise, Bryant's director of sales, said it has yielded benefits to both the company and its distributor organization that would be available by no other means.

"The collective experiences and recommendations of our distributors provide Bryant management with information vital to the planning of aggressive merchandising and sales efforts, as well as to the gauging of consumer acceptance," he pointed out.

"Bryant's Distributor Advisory Board stimulates and coordinates our merchandising activities, and imparts to our over-all sales program a real 'grass-roots' awareness of shifting field trends and problems."

Fresh'nd-Aire's Allocations Of '54 Fan Output Released

CHICAGO — Fresh'nd-Aire Co., a division of Cory Corp., recently released to each sales division an allocation of fans for 1954 covering the entire anticipated unit production scheduled for its new plant.

At a meeting held here, division sales managers were instructed to further allocate such production by specific territories and distributor accounts. Cory territory managers are now contacting Fresh'nd-Aire distributors taking orders against such allocations.

Dreyfus To Design RCA 1954 Room Cooler Line

PHILADELPHIA—RCA Victor has retained Henry Dreyfus, an industrial designer, to design its 1954 line of room air conditioners.

Dreyfus, who assisted in the design of RCA television sets, is said to be developing designs that are entirely different from present types of air conditioners.

Air Cooling Planned for Proposed Motel Chain

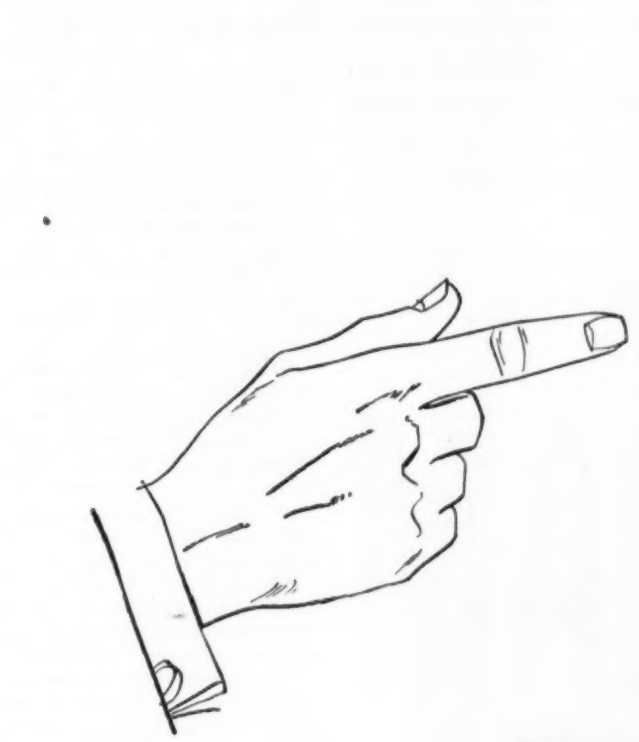
MEMPHIS — Air conditioning is one of the many comforts and conveniences planned for a proposed nationwide chain of fancy "Holiday Inn" motels.

Plans for the chain were outlined here recently by builders Kemmons Wilson and Wallace Johnson. The partners have formed a syndicate that intends to issue building franchises for the construction of locally-owned motels totaling 100,000 rooms in the next five years.

Aim of Wilson and Johnson is to provide hotel comfort and luxury at about 15 to 20% lower rates. In addition to air conditioning, the motels would offer room service, piped-in music, use of a 500-person "utility" room, and other facilities, and close by would be a restaurant, beauty parlor, drug store, etc. A double room would cost $6 a night.

Thus far, the partners have approved the building of 181 motels in 77 cities. Three Holiday Inns are already in operation in Memphis, with a fourth due to be finished in November and a fifth planned, for a total capacity of about 565 rooms. Construction has started on units in Dallas, Albuquerque, and Dover, Pa.

For a $500 initial fee and a charge of five cents per room per night, the syndicate will furnish participating builders a number of services. Among other things, local Holiday Inn builders will be able to buy all equipment and supplies from the management and get help in financing.



RCA

Your Best Selling Point in Air Conditioning

Prospects and customers are not usually engineers. The inside workings of electrical equipment are as far from their daily lives as the construction of the atom bomb.

But for their own protection they have learned a clever question which every dealer has heard thousands of times: "Who Makes It?"

The answer can mean a sale with cash on the line, or it can mean precious selling time used up in explanations, conversation and the "We'll think it over" routine.

When you say "*RCA*" you have answered dozens of questions to the prospect's complete satisfaction.

He knows immediately that the world's finest engineering is represented in the product, that it is modern in every respect, that it will give more than is expected of it in performance—and that service and installation facilities are near at hand.

That's the best reason in the world to sell RCA Air Conditioners. The most important feature to end sales resistance is the built-in reputation of RCA.

Make it your big selling point.

RCA AIR CONDITIONERS

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA
IN CANADA, RCA VICTOR COMPANY, LTD., MONTREAL

TWO WINNERS in the Harderfreez "Pigskin Push" sales contest, Frank Epsey, The Bodwell Co., Harrisburg, Pa. (center), and C. J. Kennedy, Henry Colder Co., Milwaukee (right), get the ball from William Hall, director of sales for Harderfreez.

Distributors, Dealers See Football Game As Guests of Tyler

NILES, Mich. — Top "Harder-Freez" home freezer distributors and dealers from five states witnessed the Notre Dame-Georgia Tech football classic Oct. 24, as guests of the Tyler Refrigeration Corp.

The thrilling gridiron show was part of the entertainment Tyler provided for winners in the Harder-Freez "Pigskin Push," a nation-wide sales contest conducted during the period of Aug. 3-Sept. 30 this year.

Top volume distributors, dealers, and their leading salesmen were awarded prize trips to Niles and Notre Dame.

Among the winners entertained were: George Fisher and Frank Espey, the Bodwell Co., Harrisburg, Pa.; Ray Happel and Larry Furry, Happel & Sons, Cedar Rapids, Iowa; Stewart Zent, Mid West Sales & Service, South Bend, Ind.; Ralph Hawkins, Femco, Inc., Fort Wayne, Ind.

Also E. V. Larson and W. F. Larson, Taylor Distributing, Billings, Mont.; C. J. Kennedy and Howard Stengel, Henry Colder Co., Milwaukee; Robert Kline and Allan Hyde, Susquehanna Lockers, Inc., Sunbury, Pa.

Elect Thompson Head of New Orleans Association

NEW ORLEANS—Philip J. Thompson has been elected president of the Master Refrigeration & Air Conditioning Association, Inc.

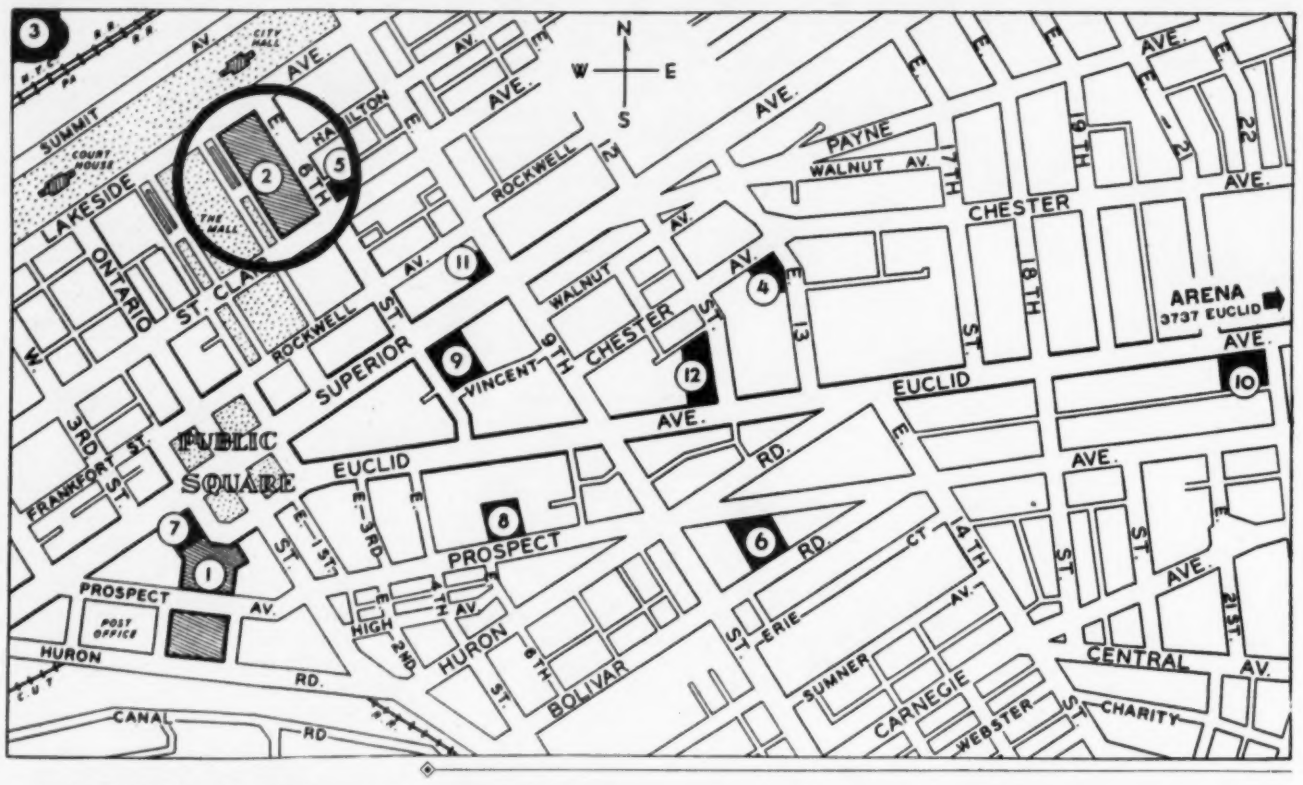
Other officers are Al Frantovich, vice president, and Gus Nevle, secretary-treasurer. The new board of directors include George J. Miller, Jr., John C. Ackerman, Harold L. Flettrich, Joe O. Hidalgo, George Koehler, and Larry Rumold.

Addition To Up Production 60% at Baltimore Aircoil

BALTIMORE—The Baltimore Aircoil Co., Inc. announces that it has contracted for a new building adjacent to its present plant.

This new addition, consisting of a one story building of brick and steel, will increase manufacturing capacity about 60%.

MAP OF DOWNTOWN CLEVELAND



1. Union Station—Terminal Tower. 2. Public Auditorium. 3. Stadium—Home of the Indians and the Browns. 4. Allerton Hotel. 5. Auditorium Hotel. 6. Carter Hotel. 7. Cleveland Hotel. 8. Colonial Hotel. 9. Hollenden Hotel. 11. Olmsted Hotel. 12. Statler Hotel.

Hertel, Swigart Named to New Posts by G-E

BLOOMFIELD, N. J. — Appointment of R. F. Hertel as manager of manufacturing of the Bloomfield plant of General Electric Co.'s Home Heating & Cooling Department has been announced by S. J. Levine, department general manager.

He succeeds R. G. Swigart who has been appointed to the department's newly-established Facilities Study Group. The purpose of this new group is to study the long range manufacturing facility requirements of the department which has expanded its operations in the past year.

Hertel was formerly manager of engineering of the Home Heating & Cooling Dept. He joined G-E on the test course at Schenectady in 1936, following his graduation from the University of Wisconsin.

He came to Bloomfield in 1946 as a section engineer in the room air conditioning engineering section and subsequently was appointed manager of engineering for automatic heating equipment and later all product engineering. In 1952 he was named to the post he held prior to his new appointment.

Swigart joined G-E at Bloomfield in 1950 from the Geuder, Paeschke, Frey Corp., Milwaukee, where he was first general superintendent and later director of industrial relations. He was appointed as manager of the automatic heating equipment plant in 1951 and in 1952 was named manager of manufacturing of the newly-organized home heating, cooling department.

He attended Michigan State college, majoring in mechanical engineering.

His Dogs Are A Man's Best Friends

CLEVELAND—"Oh, my aching feet!"

When you start feeling like that, Mr. All-Industry Show visitor, make tracks for booth *712-14*. There Penn Brass & Copper Co. has Niagara Foot Vibrators available to make your feet feel like they belong to you again. Take a load off and shimmy your dogs back to health!

If you think the trip around the exhibits gets longer every year, you're right. There's 4,400 sq. ft. more to cover this year than there was in Chicago.

Gibson Lops $20-$50 Off 6 Freezer Prices

GREENVILLE, Mich.—Gibson Refrigerator Co. has reduced prices $20 to $50 on six models in its home freezer line.

Prices have been lowered on four upright models as follows: 17-cu. ft. model, from $549.95 to $529.95; 18-cu. ft. models, from $599.95 to $569.95; 25-cu. ft. model from $699.95 to $649.95; and 32-cu. ft. model, from $899.95 to $879.95.

Prices of the 7 and 11-cu. ft. models, recently boosted $20 and $40, remain unchanged at $299.95 and $429.95, respectively.

The 14-cu. ft. chest model has been reduced in price from $459.95 to $439.95 and the 20-cu. ft. model from $599.95 to $549.95. The $399.95 price of the 10-cu. ft. chest model was not changed.

How Du Pont's P.M. PROGRAM

(*Preventive Maintenance*)

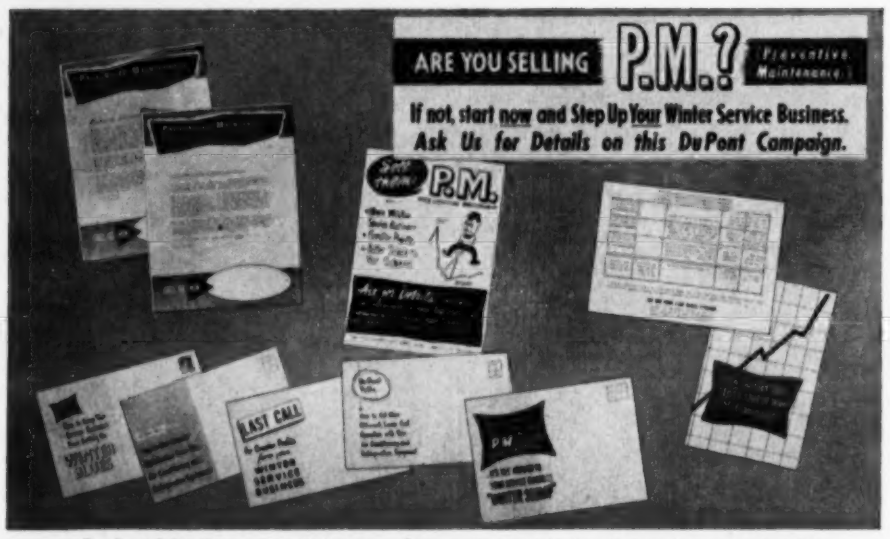
promotes service work during slack periods

The Du Pont P.M. (Preventive Maintenance) Program introduced last fall, met with instant success. Wholesalers and service organizations quickly learned that it helped promote service work in quiet seasons when such jobs could be handled most efficiently.

The P.M. idea is simple enough and it's not new. Doctors have long advocated periodic checkups to keep yourself in the pink of condition. Oil companies have successfully sold the idea of thousand-mile oil changes for your car. P.M. (Preventive Maintenance) is much the same... catching little troubles before they become big ones.

Many equipment owners realize the wisdom of the plan. That's why it clicked from the start. Over 1200 air conditioning and refrigeration service firms participated in the first Du Pont P.M. Program. They distributed more than a million pieces of promotional literature . . . and developed a lot of new business for themselves.

P.M. PROMOTION MATERIAL IS FREE


ARE YOU SELLING P.M.? Preventive Maintenance
If not, start now and Step Up Your Winter Service Business.
Ask Us for Details on this DuPont Campaign.
P.M.
LAST CALL

Du Pont P.M. (Preventive Maintenance) promotion material is designed to carry imprint of your firm name and address . . . so that it looks like your own advertising.

REPORTS SUCCESS OF PLAN

J. T. Knight, Jr., Manager of the Air Conditioning Division of the Equitable Equipment Company in New Orleans, La., states:

"Customers like the P.M. idea. Out of 175 contacts there were some 35 interested, and we signed up about 18 actual jobs. Our campaign led to new service contracts on a monthly basis. An example is the big downtown Mark Isaacs store in New Orleans. We replaced all evaporative condensers right after the Christmas rush. As a result, we lessened chances of a breakdown during the extremely hot weather we've been having lately."

To make the most of this P.M. Program, all the refrigeration wholesaler has to do is to mail ready-made promotion material regularly to your own list of customers and prospects. Du Pont supplies the material without charge. The complete package includes: A window banner and counter card calling attention to your place of business as P.M. headquarters. Self-mailing piece explaining the P.M. Program. Follow-up mailing pieces; mailing schedule and booklet outlining best way to use P.M. material effectively. In addition, mailing material on the P.M. Program is also offered for use by service and contracting organizations.

You imprint these mailing pieces with your firm name and address so that it has the appearance of being your own advertising.

In addition, those of your customers who wisely decide to go along with the idea to develop profitable service business, are also supplied through you as a refrigeration wholesaler, without cost, a complete package of material which they, in turn, may use to promote Preventive Maintenance in their own slack seasons. It's as simple as that. To obtain all this material and further information about the P.M. plan, contact your "Kinetic" wholesale representative or your "Freon"* refrigerant wholesaler. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Div., Wilmington 98, Delaware.

BE SURE TO VISIT DU PONT EXHIBIT IN BOOTH NO. 831 AT THE REFRIGERATION & AIR CONDITIONING EXPOSITION IN CLEVELAND NOVEMBER 9-12.

KINETIC

*"Freon" is Du Pont's registered trademark for its fluorocarbon refrigerants.

FREON

SAFE REFRIGERANTS

DU PONT

... THROUGH CHEMISTRY

true

MODERN COOLERS FOR A MODERN AGE

True Stainless Steel Coolers are of modern streamlined design—beautiful in appearance with the finest refrigeration money can buy. True also manufactures a complete line of baked enameled coolers, both self-contained and remote.

True Features...

(1) Streamlined cabinet design to withstand high humidity and salt air*,

(2) Fingertip touch roll-back doors,

(3) Self-contained models that eliminate expensive installation costs,

(4) Maximum bottle capacity for floor space used.

*True sales in Puerto Rico have doubled during the past year because of this important feature. Today they are one of the most sold coolers on the Island.

Model TS-621 Self-Contained, ready to plug-in, 21 case dry cooler with 12 ice cube trays and water stand—Available in sizes up to 10' long.

Write or Call Today for Complete Details.

TRUE MANUFACTURING COMPANY

LUcas 6700 2905 PINE STREET • ST. LOUIS, MISSOURI

SEE US IN BOOTH NO. 834

AIR CONDITIONING (Year-Round Residential)

"READERS' CHOICE" HOME designed by the staff of "Better Homes and Gardens" magazine features this efficient utility room. Located at the front of the house between kitchen and garage, this view shows the hot water heater, a gas-fired Chrysler Airtemp boiler, one of two Airtemp air conditioners, and a water softener.

Air Conditioning—A Requirement

Survey of Nation's Leading Builders Reveals Most People Want It In Contemporary Homes

DETROIT — Year-around residential air conditioning is approaching the "required" status in contemporary home design, according to a survey of leading builders conducted by the Indoor Climate Research Bureau.

In a national contemporary home promotion, the staff of *Better Homes And Gardens* magazine has designed a "Readers' Choice" 1953 model home, built for display by 43 of the nation's top builders.

Because of many climate variations, the choice of heating and air conditioning systems was left to the local builder.

A survey of these builders revealed that two-thirds of them already have installed a year-round air conditioning system, or have made provision for its immediate future addition.

Approximately 90% of the air conditioned homes were built in the warmer regions of the country, principally in southwestern and southern states.

The choice between a single combination heating-air conditioning unit and two smaller, separate combinations was evenly divided. Climate demands and geographical locations guided the choice.

Where only one year-round combination unit was installed, the 3-hp. and 5-hp. sizes proved most popular. In homes where two combination units were placed, two small furnaces and 2-hp. air conditioners were the leading choice.

The basic design of the "Readers' Choice" home—an "H" floor plan layout with one side facing the street—led to innovations in the design of the year-round residential air conditioning system.

Forced warm-air perimeter heating was the unanimous choice of the builders.

Typical of northern climate installations is the Arlington Heights, Ill., "Readers' Choice" home built by the Trude Land Development Co., and featured in the September issue of *Better Homes And Gardens.*

Overall, the house is 63 ft. wide and 54 ft. deep. Floor area totals 1,453 sq. ft. The "living" wing includes living room, kitchen, and utility room. In the "sleeping" wing are three bedrooms, two baths, a dressing room, and children's play area.

A glass-enclosed terrace room, which serves as a dining room, bridges the two areas.

A 3-hp. Chrysler Airtemp "packaged" air conditioner is located near the center of the sleeping area. As temperatures require, air is directed through either the cooling coil or the heating coil—located in the main discharge duct— and diffused throughout the "zone."

A 2-hp. air conditioner provides warm or cool air to the "living" area as required. An Airtemp gas-fired hot-water boiler provides heat.

In either the "zoned" air distribution layout or the single-source design, warm or cool air is first forced into a plenum chamber constructed in the slab below the furnace or air conditioner.

From this plenum, the air is fed through ducts laid in the concrete slab to outside-wall registers.

The "zoned" systems can be made to work independently, if desired.

For water conservation, an Airtemp Water Saver recirculating unit has been included in the sleeping area air conditioning system. Water used in air conditioning is cooled outside and returned to the air conditioner.

The growing popularity of contemporary design, with its slab construction and spacious living areas, may initiate a trend to "zoned" indoor climate control systems, said the Bureau.

Residential Forecast

Within 10 Years the Non-Air Conditioned Home Will Be Obsolete, AIM Predicts

NEW YORK CITY—In the next five years, more than 2,000,000 homes in this country will be air conditioned the year 'round with central units, compared with 100,000 houses so equipped at present, and annual sales of the air conditioning industry by 1963 will total more than $5,000,000,000.

The American Institute of Management makes these predictions in an appraisal of the air conditioning industry now being distributed to its 12,000 members.

"Within 10 years," the report forecasts, "the non-air conditioned home will be obsolete, at least in most parts of the country.

"Year-round air conditioning will be standard in practically all new homes and there will also be a very large number of existing residences in which similar equipment will be installed or cooling units added to the heating plants."

The institute estimated annual unit sales of central year-round air conditioning during the next five years as follows: 120,000 in 1954, 240,000 in 1955, 360,000 in 1956, 540,000 in 1957, and 700,000 in 1958.

To support its prediction, the institute points to boom housing construction. It notes that new homes are now being constructed at the rate of about 1,000,000 starts a year.

In addition, the AIM said, there are around 25,000,000 dwelling units with central heating. About 13,500,000 of these have warm air heating equipment and thus can be considered likely candidates for conversion to year-round air conditioning at some time in the future, the report states.

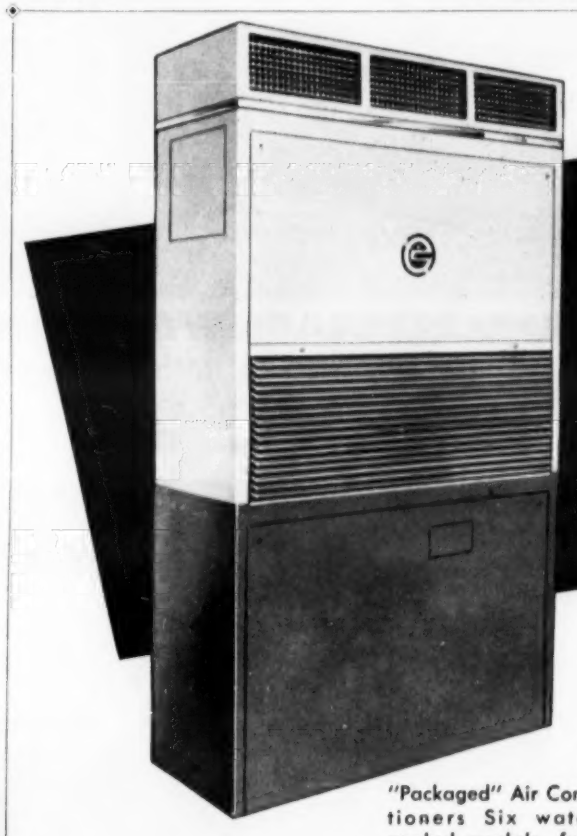
According to the report, sales of commercial year-round air conditioning equipment in 1959 will total $2,000,000, compared with $600,000 this year.

Sape Heads Timken Heating Equipment Sales In Ind., Ky.

JACKSON, Mich. — Appointment of John Sape as district sales manager for Timken Silent Automatic Products in Indiana and Kentucky has been announced by R. M. Marberry, national sales manager for the line of home heating equipment.

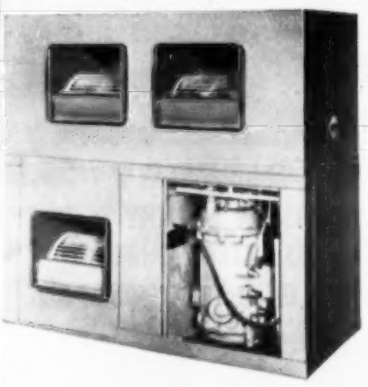
A graduate of the University of Washington with a degree in ceramic engineering, Sape has been chief laboratory engineer for National Tile & Mfg. Co. and has more recently been associated with the heating field in a sales capacity.

MISSING SOMETHING?
More and better useful information is yours for the asking. See "What's New" page.



FEATURES THAT MAKE CHRYSLER AIRTEMP COST LESS TO INSTALL...

"Packaged" Air Conditioners Six water-cooled models, from 2 to 15 h.p.



New "Packaged" Air-Cooled Air Conditioners *use no water*—require no plumbing. 2 and 3 h.p.

Be sure to visit the
CHRYSLER AIRTEMP EXHIBIT
at the
8th ALL-INDUSTRY REFRIGERATION and AIR CONDITIONING EXPOSITION
Cleveland, Nov. 9 Thru Nov. 12
SPACE 412

Chrysler Airtemp

HEATING • AIR CONDITIONING
for HOMES, BUSINESS, INDUSTRY
Airtemp Division of Chrysler Corporation

can make more money for you!

A Chrysler Airtemp "Packaged" Air Conditioner is unusually quiet in operation because the radial design of its compressor permits perfect balancing of cylinders. So, you can install the air conditioning unit right in the area to be cooled—or very close to it. This reduces the amount of ductwork required.

For other important reasons, too, you can often install Chrysler Airtemp at lower cost. Units are shipped to you *completely* factory-assembled, pre-charged with Freon. On the job, you can take conditioned air from the top of a unit, dispensing with the plenum, or direct it into the area from front or back simply by turning the plenum around. You can even "split" a unit easily, placing the compressor assembly on floor and balance of unit above shelving or other fixed objects.

Lower installation cost with Chrysler Airtemp gives you a competitive advantage which you can turn into more sales—more profit. And the installation time you save can permit you to handle more business—without adding manpower. Send coupon now for all the reasons why it will *pay you more* to sell the "Packaged" Air Conditioning which most people buy—Chrysler Airtemp.

Guaranteed by Good Housekeeping

Airtemp Division of Chrysler Corporation AC&RN-11-53
P.O. Box 1037, Dayton 1, Ohio

I would like to know more about the Chrysler Airtemp proposition.

Name _____

Address _____

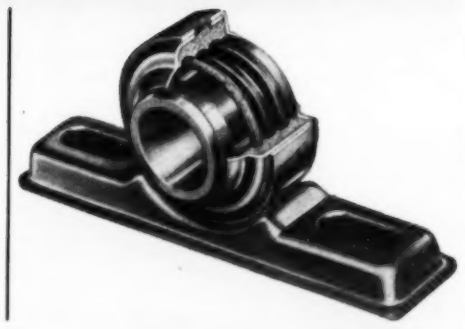
City _____ Zone _____ State _____

LAU

positive, self-aligning
PILLOW BLOCKS

with many unusual features

Indestructible, lightweight, oil-tight steel housing with self-lubricating bearing seat and Durex bushing. These LAU designed pillow blocks boast many, many outstanding features that provide maximum performance and long life.



LAU PAK
Gold Seal Bearing

Requires no lubrication. An ample supply of plastic petroleum is SEALED into the housing. Nothing to compare to it for superior performance.

Write for Catalog Page 707-14

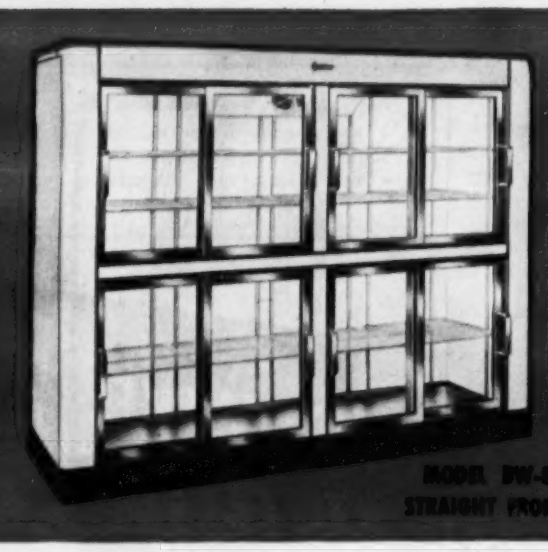
The LAU Blower Company, 2202 Home Ave., Dayton 7, Ohio
World's largest manufacturer of furnace blowers

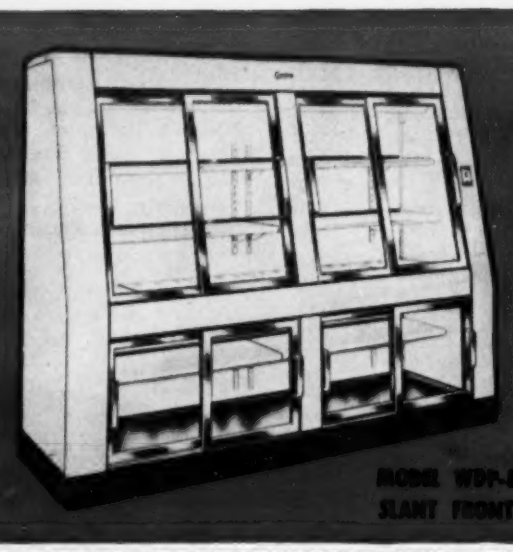
NEVER BEFORE IN ALL C

FEATURE PACKED!

COLDI

Coldin NEW YORK
YOUR KEY TO BETTER REFRIGERATION


MODEL DW-8
STRAIGHT FRONT


MODEL WDP-8
SLANT FRONT

MODEL DV54-R

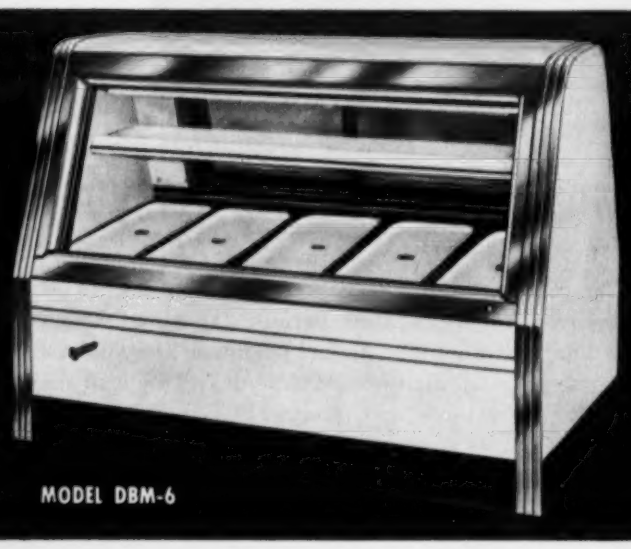
MODEL DV54-SC25

All Purpose DAIRY AND BEVERAGE WALL CASES *for Display and Storage*

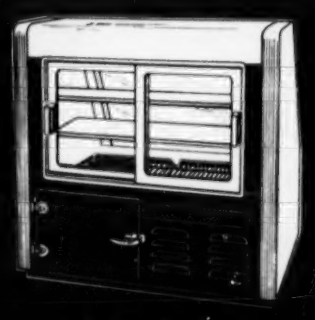
Your choice of Straight Front or Slant Front in gleaming white, acid resistant porcelain enamel. All welded, rust-proof construction. Five display levels, adjust for height to take all size products. Insulated glass doors will not fog or film. Heavy duty chrome hardware and fluorescent lights. Available in 6, 8, 10 and 12 ft. lengths.

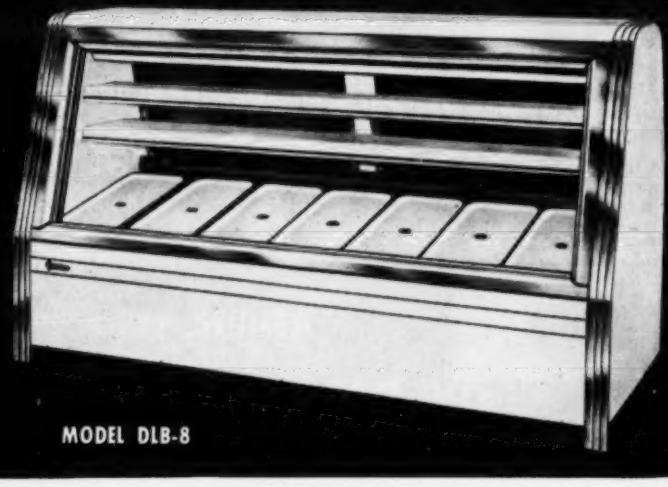
An all-around, ready-to-plug in cases, that are used a dozen different ways; dairy products, milk, beer, soft drinks, etc. All welded, rust-proof construction. Smooth sliding doors have double glazed windows. Equiped with heavy duty hardware and fluorescent lights. Available in baked enamel inside and out or stainless steel, remote and self-contained.

All cases
steel exteri


MODEL DBM-6

MODEL DL-53SC
Also available in 6 ft. self-contained.


MODEL DL-53SC-
REAR VIEW

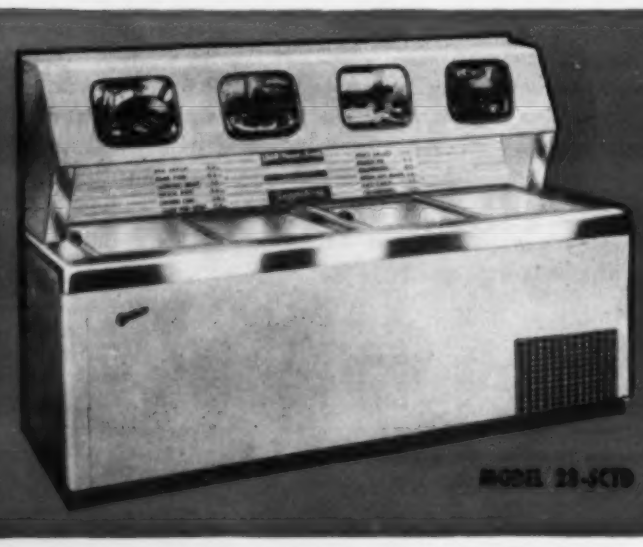

MODEL DLB-8

DOUBLE DUTY DISPLAY CABINETS

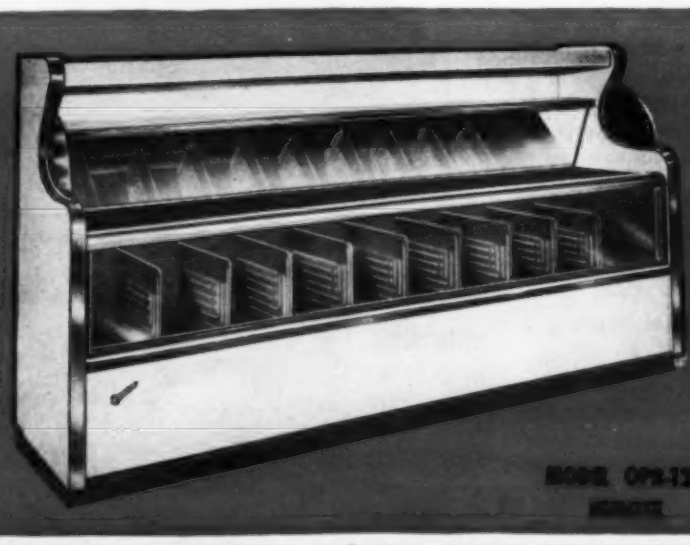
Here's the Butcher case to feature. Results in every market prove that the "retailer" wants no makeshifts, no trick refrigeration, no expensive operating costs. He wants you to deliver a Butcher case, one that will effectively refrigerate and display his merchandise. 16 solid-packed features. Available in 6, 8 and 10 ft. lengths.

- FULL VISION DISPLAY
- STAINLESS STEEL TRIM
- TRIPLE GLAZED THERMOPANE

You'll tie "sold" tags on this Delicatessen case. A modern gleaming white beauty with handsome stainless steel trim, front and rear. Everyone a triumph of engineering efficiency. All welded steel frame. Porcelain interior walls and shelves. Stainless steel bottom. Available in 6, 8 and 10 ft. lengths.


MODEL 23-SCTD

MODEL ASL-70
SELF-CONTAINED


MODEL OPR-120
REMOTE

A COMPLETE, ONE UNIT FROZEN FOOD DEPARTMENT

Every food merchandising man knows that the cabinet "makes" the frozen food department. Watch your sales go up, up, up, when you display this Coldin 8-foot package of sales power! Beautiful illuminated color photography, smooth gleaming enamel and trim. A cabinet that will put you way ahead of competition. Available in 54", 70" and 96" lengths.

The Famous COLDIN FROZEN FOOD MERCHANDISER LINE

Ready to "plug in" and "start selling." Special insulated glass front never fogs, never films. Sparkling mirror adds to beauty and gives illusion of bigness. A real frozen food sales booster for small and medium sized stores. Refrigerated dividers and an additonal display shelf. Available in 54" and 70" lengths.

Styled for maximum capacity, easy loading, and simplified self service. Huge window front shows full line of products. Refrigerated dividers keep merchandise neat and protected. Full length mirror and shelf for additional product display. Available in 70", 96" and 120" lengths.

Minimu
on the ma
sales. Top

from the smallest to the LARGEST Cold in

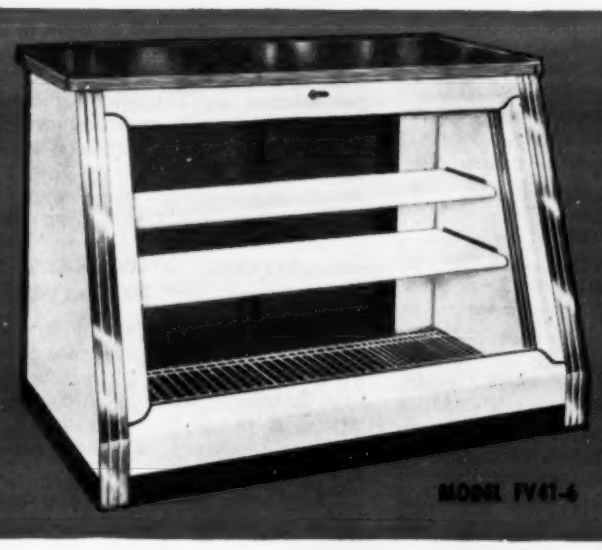
COMMERCIAL REFRIGERATION HISTORY HAVE YOU SEEN LINES SO –

VALUE PACKED!

PROFIT PACKED!

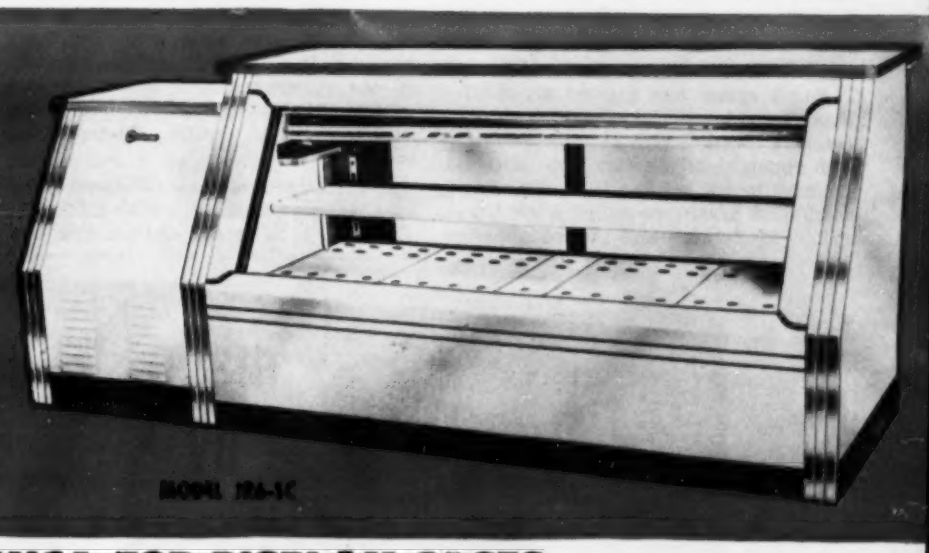
N for '54

Coldin NEW YORK
YOUR KEY TO BETTER REFRIGERATION



MODEL FV41-4

MODEL FV41-4 REAR VIEW



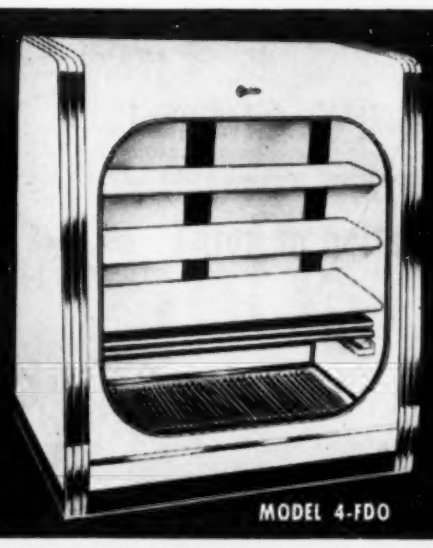
MODEL RS-5C

FULL VISION • COUNTER HEIGHT 41" • FORMICA TOP DISPLAY CASES

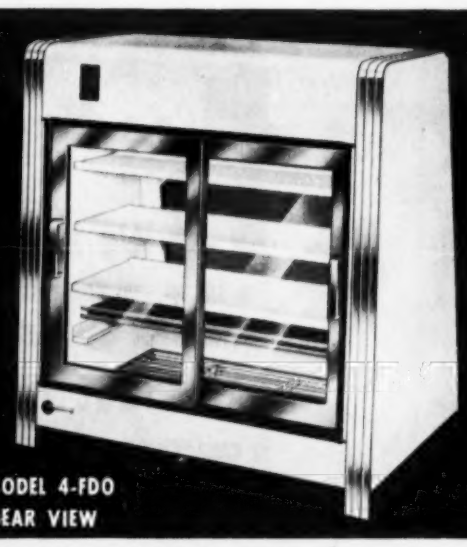
available in stainless *...r.*

DAIRY, DELICATESSEN AND BAKERY DISPLAY. You can utilize every inch of space in this case for refrigerating all types of foods. And your customers really get "full vision" from the huge, insulated Thermopane picture window. Get it in gleaming white enamel or in any color you wish. Formica counter top for added convenience. Available in 4, 6, 8 and 10 ft. lengths, remote or self-contained, to fit your particular retailer.

The famous "JUNIOR LINE" of triple duty cases for Display, Storage and Work Space. Universally accepted for display of meats, beer, soft drinks, packaged foods, etc. All-steel Bonderized cabinet. Vitreous acid resistant porcelain exterior and interior. Triple glazed non-fogging display front. Full length sliding doors, double glazed, non-fogging. Available in 4, 6, 8 and 10 ft. lengths, remote or self-contained.

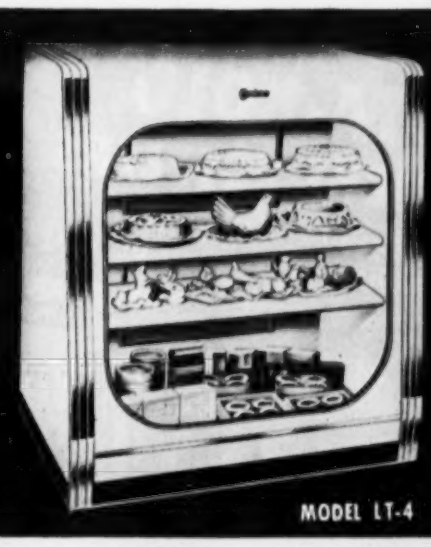


MODEL 4-FDO

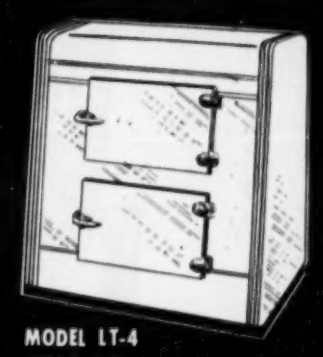


MODEL 4-FDO REAR VIEW

MODEL RS-5



MODEL LT-4



MODEL LT-4 REAR VIEW

SPOTLIGHTER FULL VISION DISPLAY CASE

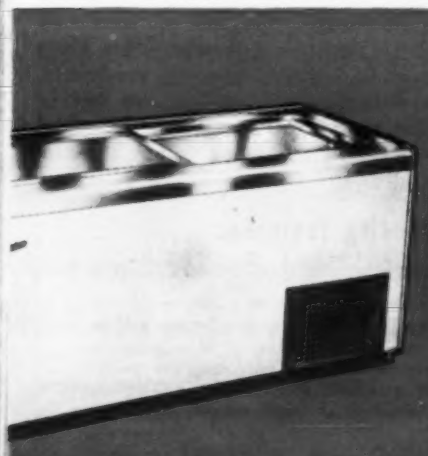
A masterpiece of design and construction. The perfect display case for: Bakery Goods, Whip Cream, Confectionary, Luncheon Meats, Milk, Cheese and Dairy Products, for every type of establishment, large or small. Triple glazed picture window. Brilliant trim. Floatingaction sliding doors in stainless steel frames. Available in 4, 5 and 6 ft. lengths, remote and self-contained.

FRONT SERVICE DISPLAY

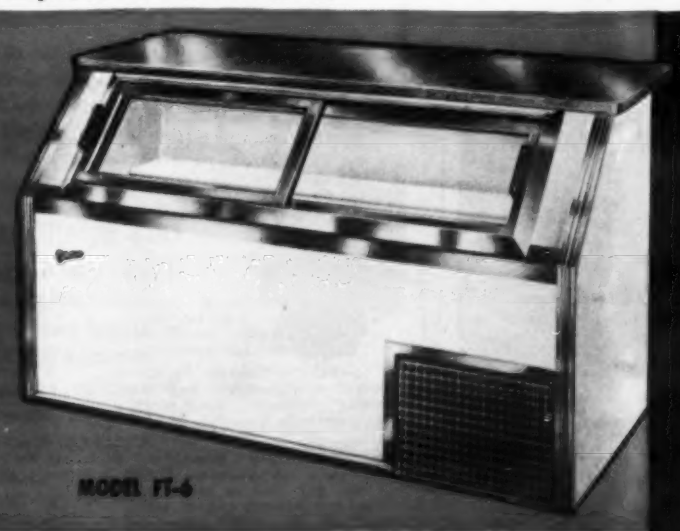
For the retailer that needs a case that displays and sells from one side. This model fits conveniently against walls or anywhere in the store. Two huge EZE-SLIDE doors with frost-free, moisture-free glass.

LOW TEMPERATURE DISPLAY

The favorite case for bake shops and specialty food departments. Tops for the display of ice cream, cream cakes, whips, specialties, etc. All steel construction. Quadruple glazed front. Four low temperature shelf plates. Your choice of all colors in baked enamel. Available in 4, 5 and 6 ft. lengths.



MODEL 17SC



MODEL FT-6

the Coldin line has Features to Sell!

The powerful Coldin line can be your key to new and larger volume in commercial refrigeration sales. Coldin has all the features, all the improvements retailers look for in cabinets.

Coldin - a Franchise that means Profits!

These Coldin products typify the continuing progress of Coldin. They represent a new and added reason why a Coldin Franchise is so highly valued in the commercial refrigeration field. We'd like to tell you more about it. Wire or write and we'll get together.

Coldin

The Line to sell for '54

see it at the

8th ALL-INDUSTRY REFRIGERATION and AIR CONDITIONING EXPOSITION

Cleveland, Ohio November 9 to 12

BOOTHS 830 — 832 — 834

...n investment gives you the finest cabinet ...rket today. Just right for extra storage and ...s for the small frozen food department.

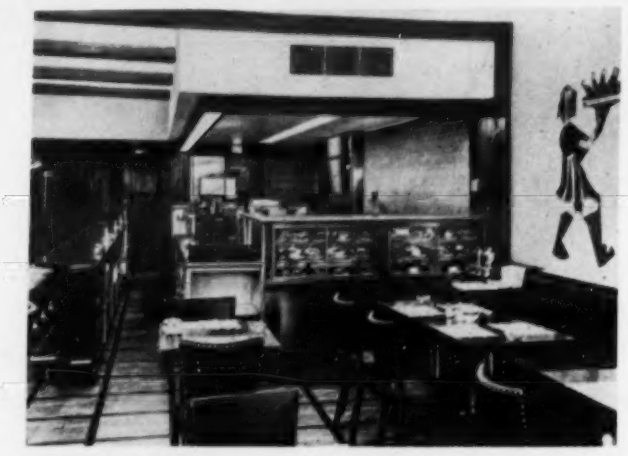
NEW SLANT TYPE, BEAUTIFUL FORMICA TOP

frozen food Display, Storage and Work Space cabinet with gleaming stainless steel trim and porcelain front. Bound to be the favorite in any frozen food department. All steel welded, rust-proof construction. Available in 6 and 8 ft. lengths, remote and self-contained.

...in has a CABINET for every RETAILER

COLDIN CABINET CO., Inc.

2800 WEBSTER AVENUE • NEW YORK 58, N. Y. • CYpress 5-3311



REFRIGERATED BAKERY CASE keeps food in view of customer and in easy reach for waitress. Illuminated unit serves as a divider between serving section and restaurant area.

Small Space No Handicap

With Seating Capacity of Only 38, Space-Saving Equipment Helps Serve 500-700 Customers Daily

CHICAGO — Specially-designed, space-saving baked goods display cases are among features of the Henry VIII Restaurant here.

New ideas have made the restaurant such a successful operation that plans for a Henry VIII chain in the Chicagoland area are already under way.

Small space has proved no handicap to volume turnover, customer comfort, and employe convenience. The open kitchen is located convenient to all service traffic, and the U-shaped arrangement of soda fountain, sandwich and salad center, steam table, and grill includes complete facilities for cooking equipment, refrigeration, and food and dish storage.

Leitner stainless steel equipment is used throughout.

The illuminated baked goods display cases are built into the flush back of the fountain setup, in view of the diners seated in booths and tables, and into the flush back of the salad-sandwich setup facing the snack counter.

The refrigerated cases keep whipped cream pies, cakes, and desserts (baked at intervals during the day in the restaurant's own bakery) chilled, fresh, and appetizingly displayed in view of the customers and in ready reach of the waitresses.

All foods are prepared to order at Henry VIII and the menu includes a variety of plates, sandwiches, and specialties, as well as an array of salads and fountain dishes. During rush hours, two grill men handle orders on the "Vent-A-Chef" and steam table, with another person handling salad, cold sandwich, waffle, and fountain orders.

In spite of a small seating capacity of 38, including a 10-stool counter, Henry VIII's daily volume averages between 500 and 700 customers, with added volume in take-out orders. Breakfast, lunch, dinner, and snacks are served during the 7 a.m. to midnight day, and heavy demand requires a seven-day week.

Although located in an area where there is little shopping or movie traffic, and at the intersection of three principle "through" streets, the restaurant's individuality and food quality are paying off.

Lamb Enterprises Obtains Control of White Products

TOLEDO—Control of White Products Corp., Middleville, Mich., manufacturer of electric and gas water heaters, has been acquired by Edward Lamb Enterprises, Inc. here, it was announced recently by Frank Oswald Lamb, vice president.

Lamb said his firm acquired stock amounting to about 70% of the authorized capitalization from Gerald E. White, president of White Products.

White will continue as president of the Michigan firm, which he organized at Grand Rapids in 1932. Sales of White products reportedly exceed $4,000,000 annually. It has about 10,000 dealers throughout the country.

Lamb Enterprises recently acquired C. L. Bryant Corp. of Cleveland. It also owns the Erie, Pa., *Dispatch Herald,* TV and radio stations in Erie, radio stations in Toledo and Canton.

L. L. Arbuckle Represents Buildice In Southern States

CHICAGO—Appointment of Lawrence L. Arbuckle to represent Buildice Co., Inc. here in the states of Mississippi, Louisiana, Alabama, Georgia, and Florida was announced recently by John A. Heinzelman, Jr., Buildice sales manager.

Arbuckle will make his headquarters in Springhill, Ala., a suburb of Mobile. An engineer of many years experience in ammonia, "Freon," and heat exchange applications, he was at one time chief engineer of a large Wisconsin dairy plant operated by the Borden Co.

Cherry-Burrell Features 2-Flavor Freezer

CHICAGO—A six-page, two-color bulletin featuring the "Retailer" soft ice cream freezer, a machine that can serve two flavors or two colors of ice cream together in one continuous stream, has been issued by Cherry-Burrell Corp.

Bulletin tells how the Retailer can be used as a continuous freezer or as a batch freezer.

Important components of the freezers are listed and illustrated. Photographs show both the single and twin tube freezers; a line drawing locates various parts of the simple refrigeration system.

RESTAURANT & BAR EQUIPMENT

Chicago Restaurateur Finds Increased Use Of Refrigeration Adds to Profit, Service

CHICAGO — What he believes is an outstanding example of the expanding uses for refrigeration and air conditioning has just been noted by M. S. Axelrod of Continental Refrigeration Service here.

Back in 1946 the refrigeration equipment serving the Como Inn restaurant on Milwaukee Ave. here consisted of two 2-hp. Sterling ammonia machines, a ⅓-hp. Mills "Freon" unit on a small display case, two wartime chest-type freezers, and a single ice cream cabinet, Axelrod recalls.

HERE IS WHAT WAS INSTALLED

"As of Oct. 14, 1953, when we completed our latest installation, we can list the following:

"Four 10-hp. Mills condensing units for air conditioning; two 5-hp. General Electric packaged air conditioners; one 5-hp. Brunner packaged conditioner; one 7½-hp. Brunner condensing unit and a UsAirco suspended air conditioner to cool and ventilate the very modern kitchen.

"One 1½-hp. Brunner unit for the kitchen meat storage walk-in; one 1½-hp. Brunner unit for the kitchen vegetable walk-in and the garbage walk-in; one 2-hp. Mills unit and a Kramer Trenton Thermobank for the walk-in freezer; one 1½-hp. Mills unit for the meat aging walk-in; one 1½-hp. Mills unit for a walk-in used for storing ice cubes, spaghetti sauce, prepared salads, and other assorted items; one 1-hp. Mills unit on a small walk-in for salad and dessert ingredients; one ½-hp. Mills units for two stainless steel service refrigerators; one ½-hp. Mills unit for the broiler chef's steak box; one ½-hp. Brunner unit for a fruit and cake display near the entrance.

"Three ⅓-hp. Mills units for beverage coolers at the bar; three 410-lb. Carrier ice cube makers; one York Flakice machine; one Nelson ice cream cabinet, and last, but not the least important, is a Mitchell ½-hp. air conditioner to cool and heat the owner's private office," says Axelrod.

"All of this adds up to 63 tons of air conditioning and 14⅔ hp. of refrigeration," he notes.

"Joe Marchetti, the owner of Como Inn, is very well satisfied with all of his equipment," Axelrod also points out. "He feels that every piece has been a good investment in maintaining the quality of the fine food or speeding the service to the customers or in boosting the morale of the employes.

"As far as employe morale is concerned, a great factor during the past record-breaking summer was the kitchen air conditioning system. This system worked better than we had ever expected," Axelrod admits, "since we could not apply any of the usual engineering data and just hazarded a guess at 7½ tons.

KITCHEN AREA KEPT COOL ON 104° DAY

"On the hottest day of the year, 104°, we made a performance check at various points in the kitchen. Except within 8 ft. of the ranges and within 6 ft. of the dishwasher, our high temperature was 87° and the low was 84°.

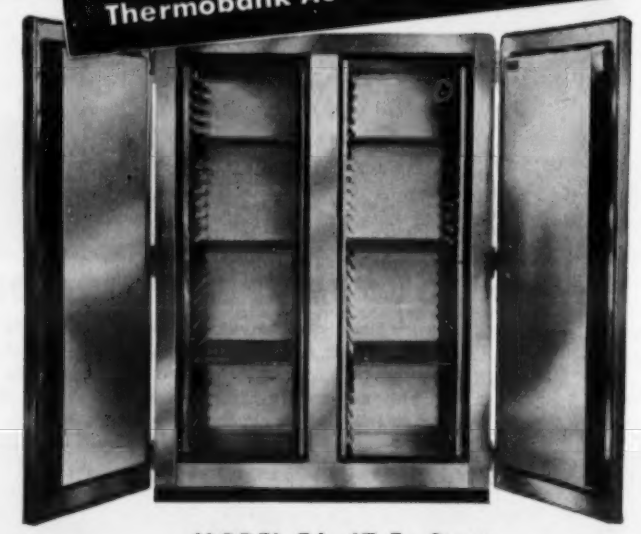
"Another important application, highly regarded by the clean-up men (and probably also by the neighbors), is the tile-lined refrigerated garbage storage room which completely eliminates odors and flies," Axelrod comments. "This room is so located that it can be loaded from the kitchen and emptied directly to the scavenger truck in the alley."

made by experts

for bakeries, restaurants, hotels, institutions

MODEL FA-35-S
Completely Self-Contained

STA-KOLD UPRIGHT FREEZERS
Complete with Kramer Thermobank Automatic Defrost



MODEL FA-47-R—*Remote*
Capacity 47 cu. ft.

Spoilage and losses are eliminated with the dependable Kramer Thermobank Automatic Defrost system . . . no ice scraping . . . no long waits for ice to melt. All foods easily accessible. Furnished with adjustable wire shelves for regular frozen food storage.

STA-KOLD features a complete line of self-contained and remote model Dough-Retarders.

STA-KOLD

ORIGINATORS AND PIONEERS OF ALL-METAL CONSTRUCTED STAINLESS STEEL COMMERCIAL REFRIGERATORS

For complete information write for catalog

STA-KOLD PRODUCTS

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VICTORY METAL MANUFACTURING CORP.
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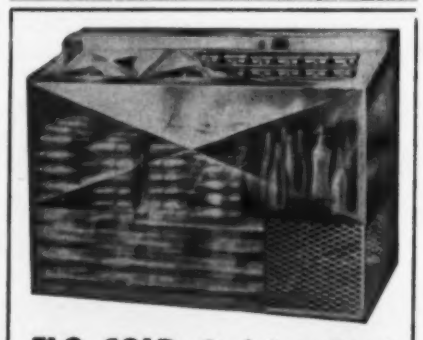
PHILADELPHIA 47, PA.

Direct Factory Representatives and Dealers Throughout the World



FLO-COLD *Stainless Steel*
DRINKMASTER
ICE CUBER-COOLER
Now Also Made in ALUMINUM
See It At The Show.
United Friguator Engrs.
Manitowoc, Wis.

it's a drier! it's a strainer!
it's a combination of both!

The sensational new versatile
MUELLER BRASS CO.
CARTRIDGE DRIER
in capacities from 1 h.p. to 40 h.p.

4-cartridge, 4" diameter shell, 40 h.p. capacity model

The new Mueller Brass Co. Angle Type Cartridge Drier is designed to meet every operating requirement. Versatility is the outstanding feature of this unit. To secure this versatility, special strainer cartridges were developed to the same dimensions as the standard drier cartridges. These drier and strainer cartridges are completely interchangeable size-for-size. In a system requiring extra strainer capacity, a strainer unit may be placed in the shell ahead of one or more drier cartridges. For added protection and still more filtering area, the new unit has a special "safety screen" at the outlet end.

Look at all these outstanding features:

- spun inlet end provides strong, leakproof construction . . . faster heating for soldering.
- flanged end is positively sealed by neoprene asbestos gasket, with minimum bolt torque.
- cartridges are non-directional . . . filter screen and dispersion plate at each end insures even distribution of high velocity refrigerant for maximum desiccant contact.
- the new silica gel PA 400 desiccant provides up to 98% more drying capacity.

See this drier
and other new Streamline Refrigeration and Air Conditioning products at the 8th All-Industry Show . . . we'll be looking for you.

117-A

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

"Slants on Service" is a "package" devised by the NEWS to meet the needs of readers in the service and contracting business.

Do Window Units Need Separate Circuits?

"Present-day window-type single-room air conditioners are called 'plug-in appliances.' Then why all the recent fuss about the overloading of electrical circuits by room conditioners?" asks Virgil C. James.

"In some cases we have even seen local governing bodies putting new provisions into their electrical codes requiring special circuits to be installed by licensed electricians for room conditioners. Why?

"Let's look at a typical example. During the early part of this past blistering Missouri summer I sold a room conditioner to a couple living in a country home served by REA lines. This house was wired perhaps twelve years ago when room conditioners, home freezers, and similar circuit-loading appliances were still scarcely even a dream on a drawing-board.

"So this house had the typical minimum wiring job, consisting of a two-circuit breaker; one 15-ampere No. 14 wire circuit for all lights and for all wall receptacles except those in the kitchen; one 20-ampere 'heavy-duty' No. 12 wire receptacle circuit in the kitchen, to be used for refrigerator, iron, and such. There were only the usual two line wires to the house; in other words, only 115 volts.

"Now, the man had bought a ½-ton conditioner with the understanding that it need only be installed in the window and plugged in. But, of course, the conditioner had to be installed in a bed-room window, and the one duplex wall receptacle in this room was on the 15-amp. No. 14 wire circuit. Was it going to be heavy enough?

"Well, according to the literature, the motor was rated at ½ hp. Now a ½-hp. motor, single-phase, on 115 volts, draws an 'average' current of 7.4 amperes. Fine, we are a 100% to the good; we have a 15-amp. circuit, don't we?

"Ah, but don't forget the old rule of thumb that says a motor must have overload protection of about 150% of its nameplate rating, to provide for the extra current the motor draws on its start. 7.4 times 1.50 equals 11.1 amperes. So why the fuss? We're still about four amps. to the good, aren't we?

"Yes and no. A motor with no load at all will draw about 150% of its rating on the start. A motor coupled by direct drive to a compressor within the dome of a sealed-unit refrigeration assembly might draw as much as 200% of its rating. But even if it didn't, there are still only four amperes left for all the other things like lamps, radios, or what have you, that might be plugged in on this same 15-ampere circuit," James cautions.

"These considerations are the basis for tables contained in the National Electric Code, in which we find, first, that, as stated, a ½-hp. motor has an 'average' current draw of 7.4 amperes at 115 volts. Then we go to another table to determine the correct size of fuse, safety switch, or circuit breaker for the motor circuit.

"Here we find that a motor drawing 7 amperes should have a circuit breaker rated at 15 amperes; a motor drawing 8 amperes should have a circuit breaker of 20 amperes. So actually, according to the prepared tables, our ½-hp. motor rated at 7.4 amperes is just 0.4 of an ampere too large for the 15-amp. No. 14 wire circuit, even if nothing else were ever plugged into that circuit.

"Suppose that instead of an automatic unchangeable circuit breaker, we had a fuse-box; couldn't we just put a 20-amp. fuse into that circuit? To make a long story short, we have personally known of disastrous fires resulting from this very practice. For the reason, remember the famous law of thermodynamics which says that 'Heat is the lowest form of energy, into which all other forms descend."

"To get back to the job under discussion, what did we do about it? The customer could afford the rewiring job which the tables indicated should be done, but he had bought the conditioner on the assumption that such would not be necessary. And if we now said it had to be done when previously we had said it wouldn't, our reputation would suffer. So we did the next-best thing.

"We quietly made sure that nothing but a tiny low-wattage night lamp would ever be used on the same circuit while the conditioner was in operation.

"As for the 0.4 of an ampere which the tables said were just that much too much for the 15-amp. circuit, well, we know that tables always make more than ample safety allowances, so we believed the 0.4 of an ampere could be safely disregarded. Hence, after installation was complete, we plugged it in. It worked perfectly through the hottest summer ever known.

"But, the point is, that even with a ½-hp. job we were already on the ragged edge of an overloaded electrical circuit. Now, how about a larger one, say a ¾-hp. job?

"Using the same table, we find that a ¾-hp. motor is rated at 10.2 amperes at 115 volts, and that a 10-amp. motor should have 30-amp. fuses, or a 25-amp. circuit breaker. This means that the wires serving such a motor circuit must be at least No. 10, and that absolutely nothing else be served by that same circuit.

"Furthermore, all motors operate better on 230 volts, especially the larger sizes. Since twice the voltage gives twice the 'force,' they start with more 'snap.' Since the current is cut in half, there is less heating effect within the windings. Thus, at 230 volts a ¾-hp. motor draws only 5.1 amperes, and so could be served by a 15-amp. No. 14 wire circuit; but it would then have to be a special 230-volt circuit, wired directly to and for that motor only.

"Most old houses, as in the case we are talking about, have only two lead-in line wires, that is, only 115-volt current available. To rewire them for 230 volts is expensive and, in many cases, impractical. In such cases, we just can't have the more desirable 230-volt installation, but are reduced to the former alternative of running the heavy special 115-volt 25-amp. circuit for the conditioner only."

Broken Water Line Damages Equipment In Supermarket

ALTOONA, Pa.—A broken water line in the refrigeration equipment of the A&P supermarket at Twelfth Ave. and Fifteenth St. flooded the basement and overflowed on the main and wareroom floors before it was discovered by the manager during a routine check.

As a result, the store was closed for two days to permit repairs, principally to electrical equipment which was damaged by the high water.

There was comparatively little stock damage from the water, but more than 20 motor units in refrigeration equipment kept in the basement had to be dismantled, baked out, and checked.

Hubbell Metals Appointed By United Wire & Supply

PROVIDENCE, R. I.—Archie T. Allan, manager of the Brazing Alloys Div. of United Wire & Supply Corp. here has announced the appointment of Hubbell Metals, Inc., St. Louis, Mo., as midwest distributor for its line of silver brazing alloys and fluxes.

Hubbell Metals has branch offices and sales offices in Kansas City and Indianapolis.

Wagner Electric Elects McCracken Vice President

LEASIDE, Ont., Can.—E. G. McCracken has been elected vice president and general sales manager of the Wagner Electric Div. of Sangamo Co., Ltd., here.

E. G. McCracken

He has been associated with Wagner since his graduation from McGill university in 1924, starting as a sales engineer in Wagner's New York office.

McCracken has had several sales positions with the company since he returned to Canada.

In 1936 he became district sales manager, and in 1952 was appointed general sales manager, the position he held until his election as vice president.

Rittle, Prather Appointed To Chase Supply Posts

CHICAGO—Chase Supply Co. here has announced the appointments of F. A. Rittle as co-manager of the company's north side branch and Ben Prather to handle a sales territory.

For a number of years Rittle was president of Tempco Supply Co. of Chicago. A graduate of Armour Institute of Technology, Prather was formerly a sales engineer for Bush Mfg. Co.

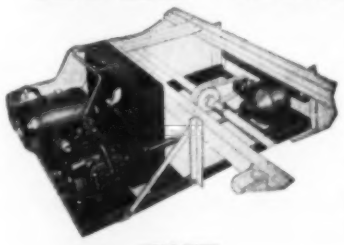
R. E. M. A.
Booths
120-122-124

The RIGHT COMBINATION

opens the door to truck refrigeration profits too!

Just as it takes the right combination to open a safe, it also takes the right combination of equipment to get the top dividends from truck refrigeration. That's why Kold-Hold gives you your choice of several different truck refrigeration combinations to provide a method of refrigeration that is just right for each special problem. These Kold-Hold systems will maintain predetermined low temperatures in your trucks with any degree of automatic operation desired. They can be fully automatic and thermostatically controlled or they can be semi-automatic requiring overnight hook-up to an electric outlet or a cooling system. One of these systems, properly engineered to your needs, can pay for itself in longer trips, reduced handling, increased customer satisfaction and elimination of spoilage losses.

KOLD-HOLD can answer any refrigeration problem!


KOLD-TRUX

Which do you prefer . . . Mobile or Hold-Over truck refrigeration? Kold-Hold can give you either or a combination of both.

When your weather worries start, pick out the routes with the biggest refrigeration problems and call on Kold-Hold to give you a satisfactory solution. They will give you the right combination for your needs from such highsides as the Kold-Trux Mobile Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold Hold-Over Plates, Thin Plates, Serpentine Quick-Action Plates, or Blowers.

Why not give us the details of your problems and let our engineers find the most efficient solution for you. Write today for details.

HOLD-OVER PLATES

Tell us your truck refrigeration problems and send now for complete data and literature.

KOLD-HOLD

VIKING.....
a sign of strength

then *and* now

easy to fabricate VIKING copper tube

The great shield of the Viking has long been a symbol of strength, for it took a strong man to carry it and a strong man to use it skillfully. The Vikings were the tallest and most powerfully built people in Europe in the period around the 8th century. History is rich with the incredible navigational feats of these roving seamen.

Today in industry, the name "Viking" has become a symbol of strength—strength where strength is needed—in the finest copper tubing ever manufactured for the commercial refrigeration and air conditioning industry.

- Viking copper tube is annealed with precision uniformity insuring speedy, efficient, trouble-free fabrication and strength.
- Viking refrigeration tubing is soft and pliable—can be formed, flared and expanded quickly without danger of fracturing and splitting.
- Triple-sealed Viking tube remains extremely dry and absolutely free of dirt. The seal is made to pass through any opening large enough for the tube itself.

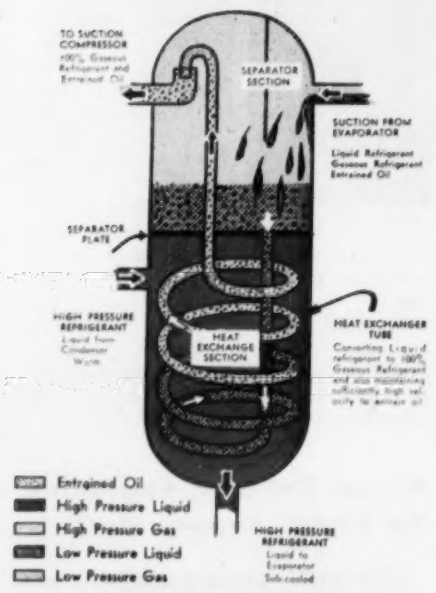
Visit the Viking Booth at the Refrigeration and Air Conditioning Exposition.

VIKING copper tube co.
CLEVELAND 28, OHIO
PRECISION DRAWN SEAMLESS COPPER AND ALUMINUM TUBING

What's New

When requesting further information on new products, please use "Information Center" form.

'Slug Eliminator' Introduced by M. Blazer & Son



——KEY NO. C-1120——

PASSAIC, N. J.—"Slug Eliminator" introduced by M. Blazer & Son here is said to prevent liquid refrigerant slugs from returning to the compressor and also insure positive oil return.

"It is used to greatest advantage in shell and tube chillers of the dry or direct expansion type, where, due to the small temperature difference between evaporator liquid and chilled water, slop-over of refrigerant usually occurs," the company states.

The device permits use of flooded evaporators, the company says, explaining that "erratic liquid distribution on air conditioning coils can now be overcome by running flooded."

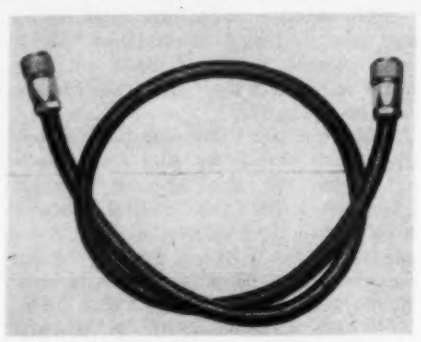
The Slug Eliminator is connected into the suction line between the evaporator and compressor. Connections are also provided so that hot liquid refrigerant goes through the device on its way from the condenser.

Top half of the device is called the "separator section." Here collects liquid and/or gaseous refrigerant and entrained oil returning from the evaporator.

From the upper section a tube carries the suction side down through the "heat exchange section" which is filled with hot liquid refrigerant from the condenser and thence back up into the separator section where it flows in the suction line.

Function of the heat exchange section is "converting liquid [suction] refrigerant to 100% gaseous refrigerant and also maintaining sufficiently high velocity to entrain oil."

It is available in standard sizes up to 50 tons, larger sizes on order.



Quick Couplers Aid In Making Charging Lines

——KEY NO. C-1121——

BELLEVILLE, N. J.—A new, fast and inexpensive way to make "Freon" and methyl chloride charging lines on the spot, and to any length, with the aid of its new, reusable quick couplers has been announced by the Resistoflex Corp. here, manufacturer of flexible hose assemblies, including refrigerant lines.

This new method of making charging lines eliminates the necessity of stocking various lengths to cover all needs, the company says.

Mounting the quick couplers on any length of hose is a matter of three simple steps. First, the nut is threaded on the hose, then the shell is threaded onto the nut, and finally, the two are tightened with the aid of an end wrench and vise, or if necessary, with just two wrenches.

The couplers are easily removed and can be used over and over again to make other charging lines. The bulk hose is light, flexible, and easy to handle. Both quick couplers and bulk hose are now available.

Wall Unit Emits Radiant Heat, Flow of Warm Air

——KEY NO. C-1122——

NEW YORK CITY—A wall heater which emits radiant heat and also creates a flow of warm air has been introduced by ThermoRay Corp. here.

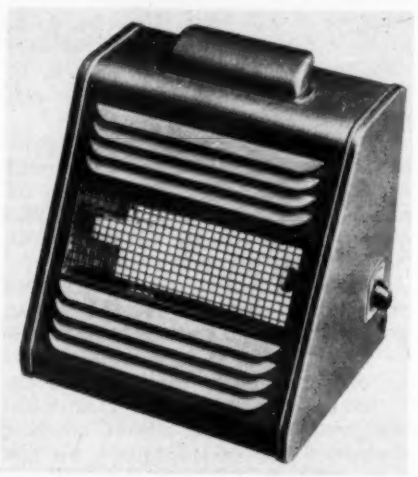
Utilizing an asbestos compostion heating panel, the ThermoRay wall heater provides maximum heat transfer because of the uniformity of heat distribution, the company said.

A permanent unit which attaches to or recesses into the wall, the ThermoRay heater has a low initial inrush of current, thus offering unusual economy in electrical heating, the company claims. It delivers full heat quicker and requires a very low percentage of current over the rated capacity in the first few minutes of operation.

Thermostatically controlled, the heating element is buried inside the asbestos composition panel. Though the heat panel is safe to transient contact, a louver keeps hands at a distance.

ThermoRay wall heaters have the approval of Underwriters' Laboratories, Inc. and of the Department of Water Supply, Gas, and Electricity of the city of New York. They are available in wattage ratings of 750 and 1,250 for operation on 115 or 230 volts. There is a 5-year manufacturer's guarantee.

In addition to space heating, the panels are also available for a variety of applications such as ovens, food warmers, and motor armature drying. Special sizes and shapes can be made to order.



Combination Unit Provides Radiant Convection Heat

——KEY NO. C-1123——

LOS ANGELES — A combination radiant-convection type electric heater that provides direct warmth through radiant "spot" heating while simultaneously warming the air set in motion by a fan to provide space heating, has been introduced by Thermador Electrical Mfg. Co. here.

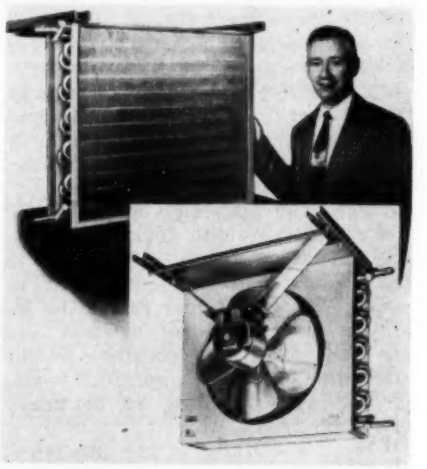
The center compartment of the heater is equipped with radiant coil and chromium reflector. The reflector beams heat over a wide radius and the sloping front directs infrared rays slightly upward to warm the entire body, the company says.

The heater also draws cold air from the floor and is so designed that the louvered front directs heated air downward and outward. A thermostat maintains desired room temperatures.

For safety, there is a device that automatically turns off the heater if it is accidentally turned over. Enclosed sides and small grille and louver openings prevent contact with the heating element.

The radiant heat-fan is finished in Sienna brown baked enamel. It is listed by Underwriters' Laboratories, Inc. and is available either in 1,320 watts or 1,650 watts on 120 volts, a.c.

List price is $29.95.



NEW BUSH BLOWER CONDENSER (above) as it looks from front, and from the back (below).

Bush Offers Replacement Blower Condenser Line

——KEY NO. C-1124——

WEST HARTFORD, Conn.—Bush Mfg. Co. here has expanded its line of replacement condensers to include a new line of blower condensers.

In the new Bush line of blower condensers, use of the company's patented inner-fin in the condenser surface is a new feature.

The units utilize husky propeller type fans to circulate air over the condenser surface, and are available in 2, 3, and 5-ton capacities.

Put SOCK in your sales

...WITH TEMPRITE

Let's talk it over at the CLEVELAND SHOW!

VISIT US AT BOOTH 209

See the smartly improved line of Temprite Water Coolers!

See the expanded line of Temprite Oil Separators, including the new F-22 models.

Watch the amazing new Bantam-100 Carbonator perform!

Inspect the new Temprite Remote Water Coolers!

Ask us about Temprite's complete line of Instantaneous Liquid Cooling devices.

Examine the Temprite combination Cooler-carbonator!

Temprite Products Corp. P.O. Box 72, E. Maple Rd. Birmingham, Michigan

CRUSHED ICE ..... SNOW ICE..... ..... at the Counter!

With these 2 NEW wonder machines

(Each occupies only 11" x 13" counter space. Each gives the desired quantity as wanted)

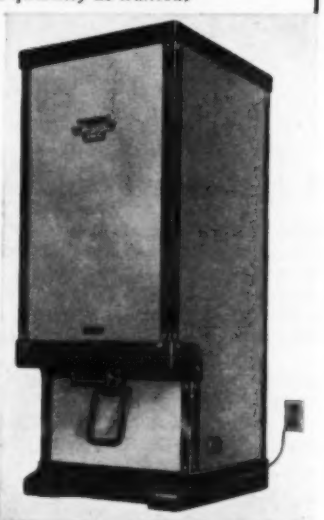
KRUSHT-ICE Ice Crusher

A flick of the finger and it produces sanitary, uniformly-sized crushed ice for soft drinks, iced tea, iced coffee, fruit cups, salads, sea foods, etc.

SNOW-ICE Ice Shaver

In a flash, this automatic ice-shaving machine supplies sanitary snow ice for SNOW BALLS and SNOW CONES. Also fine for bar use.

KRUSHT-ICE MACHINE ILLUSTRATED



BOOTH 326
38th National Hotel Exposition
November 9th thru 13th
Kingsbridge Armory, N. Y. C.

ICE APPLIANCES, Inc.
1775 Broadway, N. Y. 19, N. Y.
Distributor and Dealer Inquiries Invited

What's New (Cont.)

Heavy Duty Defroster Designed for Commercial Units

—KEY NO. C-1125—

MARION, Ohio — Designed to scrape frost from cold room plates and coils, truck plates, and low temperature cabinets generally, a new "Heavy Duty-D-Froster" has been introduced by the Marion Glass Mfg. Co. here, announces F. S. McNeal, president.

For several years the firm has made a "Freezer-D-Froster" for scraping frost off home freezers.

The new device consists of serrated scraping blade attached to a wooden handle. The blade is made of high carbon steel fully heat treated and is serrated on both sides so it can be changed after one side wears. Over-all length of the blade and handle is 25 in.

Two widths of blades are offered.

TYPHOON
OFFERS DEALERS MOST
Profitable Set-up
IN
AIR CONDITIONING

Air Conditioning Units—1½-20 tons
Multi-Packaged Systems—Up to 60 tons
Prop-R-Temp Heat Pumps—2-20 tons
Evaporative Condensers
Packaged Water Chillers

TYPHOON AIR CONDITIONING CO. INC.
794 Union Street, Brooklyn 15, N. Y.

Sealed Unit Parts Widens Strainer, Capillary Line

—KEY NO. C-1126—

NEW YORK CITY—Broadening its strainer and capillary line to take in many more types of applications, Sealed Unit Parts Co. here recently announced that capillaries will be designed for low, medium, and high back pressure using "Freon-12" and "Freon-22" up to and including 1 hp.

Each combination can be used for sweat or flare application by designing the strainers with 3 in. of tubing on the inlet side. A ¼ or ⅜-in. flare nut can be installed for a flare application. This will eliminate stocking both types, the company said.

First Solenoid Latch For Refrigerator Door

—KEY NO. C-1127—

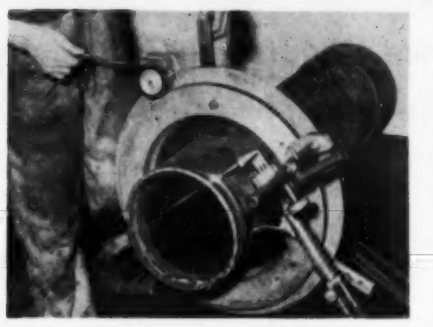
SCHILLER PARK, Ill. — Soreng Products Corp. has announced the development of a solenoid latch for refrigerator doors.

The latch has been kept under wraps until the new Westinghouse refrigerator, employing the product, appeared on the market, the company said.

Three other refrigerator manufacturers are planning to use a Soreng solenoid latch on their new models, it was stated. The latch is custom designed for each refrigerator maker.

Just a touch on a push button or lever operates the mechanism. This closes the circuit energizing the solenoid which opens the latch. In the event of power failure, the latch can be manually operated by simply pushing harder on the opening device.

Springload Acetylene Cutter Cuts Pipe In 90 Seconds



—KEY NO. C-1128—

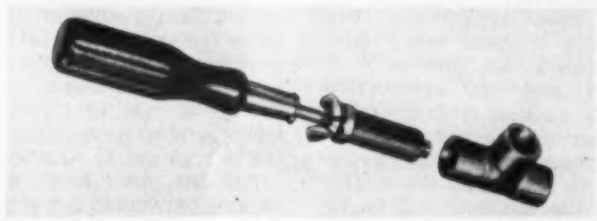
SEATTLE—A new acetylene torch cutter which cuts and bevels steel pipe with absolute accuracy in one and a half minutes has been placed on the market by the Springload Mfg. Corp. here.

The new torch cutter has a traveling carriage attachment and clamp which holds the torch in a fixed position in relation to the pipe as it rotates. The machine is designed to keep the torch at a proper distance and angle and is so mounted on a precision universal chuck that it holds within 1/64 in. of accuracy.

A one-man tool, the Springload acetylene torch will cut 10 in. pipe in approximately two minutes, with absolutely even cut and bevel all around the pipe, the manufacturer claims. It is available through water and sewage, and plumbing supply houses and comes in two sizes: 2 in. to 12 in. and 10 in. to 20 in.

The Springload acetylene cutter can be mounted on a simple framework and used to cut perfect circles up to 4-ft. in diameter in steel plate.

Bonded Abrasive Used To Clean Copper Fittings



—KEY NO. C-1129—

PAWTUCKET, R. I.—A new copper fitting cleaning tool that always cleans right to the bottom of the fitting has been introduced by Arcee Products here.

A rubber bonded abrasive is utilized to give the tool longer wear and save labor costs. The abrasive is not only on the outside of the cylinder, but is bonded through the rubber. As the abrasive wears, you simply tighten the wing nut to expand the cylinder, the manufacturer explained. The tool is designed for ½-in. fittings. Abrasive refills are inexpensive and durable.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....

Products Advertised
(list name, page, and issue date)

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Company .....
Street .....
City ..... Zone..... State.....
Type of Business .....

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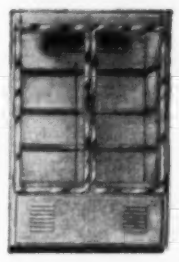
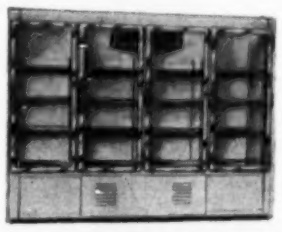
NOW

BARR MANUFACTURING COMPANY . . .
Offers Nationwide, the same
HARMONY OF DESIGN, APPEARANCE and VALUE
enjoyed by the West Coast for years.



Model 400 GSC 40 Cu. ft.

Model 600 GSC 60 Cu. ft.



Model 800 GSC 80 Cu. ft.

The **PROVED SERVUE** . . . Full Vision Doors (Pat. Pend.) Easy to install unitized frame. (Package includes — lights, shelves, UL approved.)

- **WHERE**
  (1) New and remodel.
- **NOW**
  (1) Slip into place.
- **HOW**
  (1) Determine number of doors.
  (2) Cut opening per size.
  (3) Face interior of opening with 2x4's.
  (4) Unit complete with shelves, lights and unitized frames.
- **HERE**
  (1) Minimum effort with maximum display.

TOPS IN PROFIT

Peak selling 12 months a year

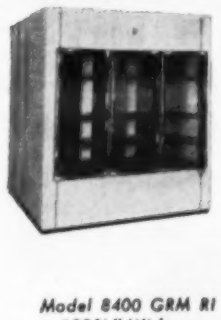
Barr Manufacturing Company can offer you a complete line of Reach-in Refrigerators to fit today's need. Capacity, 24 cu. ft. through 200 cu. ft., self-contained, or remote. Two, through ten doors. Increased demands for greater storage in less space, is the answer with Servue Reach-in's. (Pat. Pend.)

Five important Servue (Pat. Pend) points to remember are:

(1) Gleaming Cleanliness.
(2) Eye Level — See Ability.
(3) Attractive lighted display.
(4) Easy Reach-in convenience.
(5) Maximum Display . . . Orderly Display.

All features, "MERCHANDISING MAXIMUM"

WALK-IN'S AVAILABLE IN 3 THROUGH 9 DOORS



Model 8300 GRM RI WI
78¾" Wide
82½" High
70" Deep

Model 8400 GRM RI WI
102¾" Wide
82½" High
70" Deep

BARR MANUFACTURING COMPANY
8925 San Leandro St. • Oakland 21, California
LOckhaven 8-4758
SERVUE REACH-IN • WALK-IN • SERVUE FRONTS (Pat.Pend.)
Various territories open for dealers and distributors

VISIT OUR BOOTH NO. 566

Maintaining Quality In Service Work

Service Dispatcher Who Knows His Job Is One Big Key To Keeping Field Service Work at a High Level

RIVER FOREST, Ill. — "Maintaining quality in your service work," says Walter McCarty, veteran refrigeration and air conditioning dealer and service contractor in this Chicago suburb," is not just setting up a bunch of rules and forms and functions, and having them all work automatically.

"We've found that it's a matter of constant checking and instructing of our servicemen, by those who know more about the subject than the servicemen do.

"Since the serviceman is working on his own out in the field, you have to work out some way to check up on the actual service operations, or your quality of service can get away from you in a hurry."

McCarty Bros. Equipment Corp. naturally does a great many other things to insure the quality of its refrigeration and air conditioning service work, such as making certain that every serviceman has the proper tools, equipment, and testing devices with which to work, and these other elements in the business will be described later. But let's look into the procedures developed for seeing to it that the individual serviceman on the job is doing the best job possible.

"The service dispatcher is the key to the whole situation in our setup," says Walter McCarty. "If the right man is in this spot, it can mean a lot to both the quality and profit of your service work.

"The dispatcher must know more than the serviceman. In talking to the serviceman on the telephone, he must be able to give the serviceman all the help possible, and at the same time determine whether or not the job is being done right.

One Call at a Time

"All of our service dispatching is done by telephone. The individual serviceman gets *only one service call at a time*. So after he finishes up each job, he calls the dispatcher to get routed to the next job.

"This 'one-call-at-a-time' procedure offers many advantages, to our way of thinking," McCarty says. "It helps to maintain quality on the work because the serviceman isn't continually worrying and thinking about that next job that he would have if he had a 'list' of jobs to go to, and which might tend to make him rush through one job to get to another.

"On the other hand, he can't loaf on any particular job either, because he must call the dispatcher after he finishes, and the dispatcher has a pretty good idea of the amount of time that he ought to be spending on the particular job.

"The individual serviceman generally doesn't report back into the shop, but stays in the field until the dispatcher releases him for the day."

Walter McCarty over the years has organized his business operations so that he has no one particular function in the business for which he alone is responsible. This means that he can take long trips without any worry about what is going to happen to the business. It also means that he can step into any phase of the business at any time he feels like it to see how that particular phase of the business is going.

Thus, every so often McCarty will —unannounced—step into the dispatcher's job for a while. In so doing he gets a pretty good picture of a lot of things—the kind of grief the individual serviceman may be running into, the length of time taken for various kinds of work, and most importantly, whether or not the men out in the field are doing the right kind of a job.

The Telephone 'Quiz'

"Suppose, I'm on the dispatcher board, says McCarty, "and the serviceman says, 'I had to add a lot of gas to that last job.'

" 'How do you know it needed gas,' I'll ask the serviceman. 'What was the suction pressure? What was the condensing water temperature? Was the frost line okay?'

"If the serviceman's replies indicate that he isn't making the right kind of moves to diagnose the situation correctly before he goes ahead with the remedies, then you know that he's either doing a slipshod job or that he doesn't know enough."

McCarty will quite often visit a serviceman on the job. This most generally is done to assist the man on the job with some special or difficult task, but at the same time it also affords McCarty another opportunity to check on that most important matter—the quality of the service work being done in the field.

The service dispatch slip which McCarty Bros. use is not a very complicated form, but there is room on it for all the necessary information. In addition to the name, address, and telephone number of the customer, it has space for a brief description of the complaint. There is a line to record who took the call, the serviceman to whom it is given, and the time that the call is given out.

Type of Charge Indicated

There is also room for the notation as to whether it is a "free service" call or a call on which a charge is to be made. If it is a "free service" call, there are further places to note if it is "Within Guarantee," "On Service Contract," "Concession" (this means furnished free to customers whose purchases of sizable jobs, past experience with a particular job, etc., merits such a concession) "Recheck," "Call Back," "Delivery Call."

If it is a call on which a charge is to be made, this is broken down into "C.O.D Only," "Charge Call," "Call Back," or "Recheck."

The serviceman carries with him a small (4 by 6¼-in.) pad of a billing and record form, the carbon copy of which can be used as the customer's payment receipt if the serviceman takes the actual payment for the work.

First thing that he notes on this form is whether or not the work done is on the basis of "Charge," "C.O.D.," "Gratis," "Call Back," "Service Contract," or "Guarantee." He then writes a brief description of the nature of the trouble, or the work done.

Elsewhere on the front of this form which the serviceman carries with him are spaces for "time arrived," "time finished," "travel time," and "total time." Then there is a section to total up the actual costs that go to make up the bill—labor, parts, parking, and this all adds up to the total.

Finally, there is a place for the customer's signature, and a space to

(Concluded on next page)

Service Dispatch Slip Has Important Data for Records

SERVICE DISPATCH SLIP

Date
Time A. M. / P. M.

Name — Bill To
Address — Address
City — Apts.
To Be Made — Order No.
Phone — Phone
Complaint
Call Received By — Given to
Time A. M. / P. M.

FREE SERVICE:
1. Within Guarantee ☐
2. Service Contract ☐ Date Installed
3. Concession ☐ Service Contract
4. Recheck ☐ By
5. Call Back ☐ Charge To
6. Delivery Call ☐ Charge To
Invoice No.

CHARGE SERVICE:
1. C. O. D. Only ☐ Customer Order No.
2. Charge Call ☐ Authorized By
3. Call Back ☐ Charge To
4. Recheck ☐ Charge To

SERVICE DISPATCH SLIP used by McCarty Brothers Equipment Corp. will, when completely filled out, have the necessary information about the nature of the complaint, the location of the customer, and the way in which charges should be made.

WHAT CAUSES OIL DECOMPOSITION?

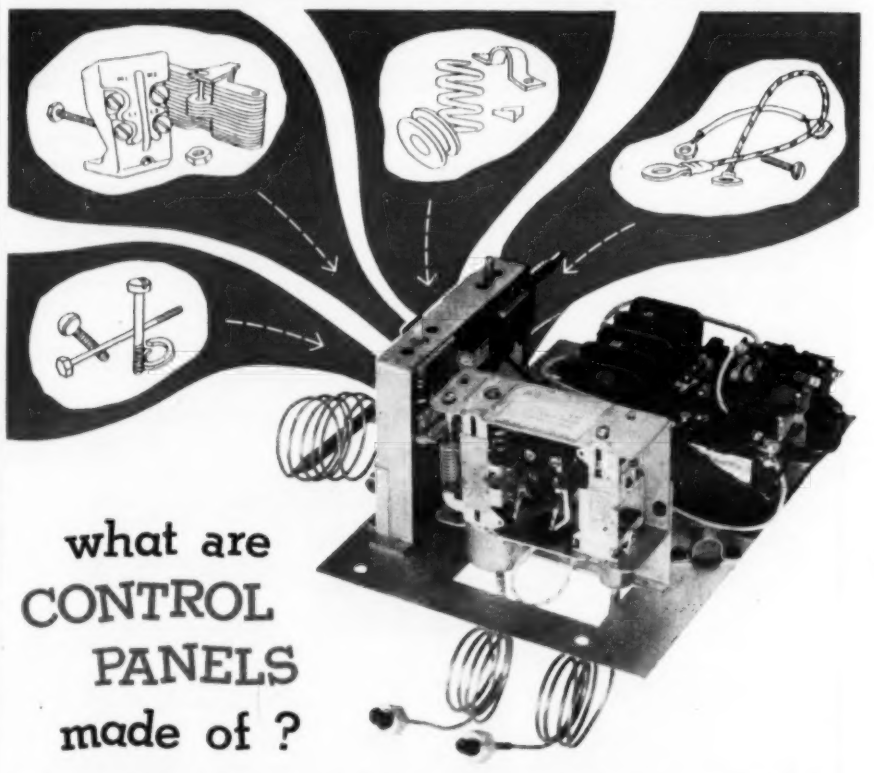
A lot of people will tell you that high discharge temperatures cause oil decomposition. This is certainly true. And it's a problem you can often handle easily by proper maintenance and adjustment of equipment. But this is not always enough. If the oil you're using doesn't have *high stability,* it can still decompose no matter what the discharge temperature may be. The solution to this is easy. Use an oil with proved high stability—SUNISO.

Sold by Leading Wholesalers Everywhere

SUNISO ADVANTAGES • provides adequate lubrication at all temperatures encountered in service • possesses a high degree of stability • won't throw out wax deposits under low temperature conditions • has extremely low moisture content • resists formation of corrosive acids and carbon under service conditions • separates readily from refrigerant—won't react adversely

SUNISO REFRIGERATION OIL

A PRODUCT OF SUN OIL COMPANY



It takes more than line starters, selector switches, thermostats, pressure switches, transformers, and relays. It takes *specialized engineering know-how* in co-ordinating the functions of the component parts into an efficient, unitized control. That's what control panels are made of!

And it's the *big reason* more and more air conditioning manufacturers are bringing their control panel problems to Penn for perfect solution. Here are the advantages they get from Penn . . . one source for quality-designed, precision-built component parts . . . savings in production time . . . savings in wiring and labor costs . . . simplified wiring and installation for their field men . . . PLUS *better-satisfied customers!*

If you need better controls for air conditioning and refrigeration . . . do what so many leading manufacturers are doing . . . buy Penn! See your wholesaler or write **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N.Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario.

PENN AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, INDUS

Maintaining Quality In Service--

(Concluded from preceding page)

put down the data for a payment receipt, in the event that cash is taken.

Back of the form carried by the serviceman is ruled off to permit a listing of the time and all parts used on the job.

There are many other things that McCarty Bros. do to keep their quality of service work, and to sell its service work, as Walter McCarty says, "not on price, but on a reputation of doing a job right."

Have Individual Automobiles

The company buys the automobiles which the servicemen use in their work. Business coupes are preferred by McCarty over trucks for a number of reasons: tools and supplies are out of sight and can be locked in the trunk, private automobiles can travel on boulevards where trucks cannot (an important factor in driving in Chicago), servicemen driving their own cars rather than a truck tend to "live up" to this and thus create a better impression.

The serviceman keeps the automobile assigned to him all of the time, and has the use of it outside of working hours. However, he must keep it in a garage. The men take considerable pride in their automobiles, and it is also a morale booster in that the men know that the better the company does, the sooner the old automobiles will be replaced with new ones.

Each man carries a complete tool kit and a supply of most-needed parts in the trunk of his automobile. The management makes periodic checks to see that the tools and parts are strictly up-to-date. Each man now carries the "pincer" type of electrical testing instrument which has become popular in recent years. But also available to them from the shop is a big Weston Electrical Instrument Corp. tester that can be used on motors up to 50 hp. in size.

A couple of times a year the management also holds a "tool inspection" day in which the men spread out their kits, and receive suggestions for additions or replacements.

Control Diagram at Each Job

One extra piece of assistance which comes to McCarty servicemen automatically is the fact that the contractor does practically all of its own work on control systems, no matter how complicated the controls part of the installation might be, and then posts a diagrammatic sketch of the controls system at every installation. This, of course, is a tremendous help and time-saver to the serviceman when he arrives on the job.

McCarty thinks that the attitude of the serviceman towards the customer is all-important, in terms of building up future business and establishing a reputation. In training his men on this point, McCarty tries to get over this point:

Customer Relations Policy

"Your wages come out of the customer's cash register, so try to see that he is satisfied, and try to get along with him."

The men are given uniforms and are instructed to stay as neat and clean as possible, and to leave the customer's place of business at least as clean as they found it. However, the rule is to "wash up at the place where you got dirty," and each serviceman carries soap in his tool kit so that he can do this.

Johnson Service Adds Detroit, Greensboro Bldgs.

MILWAUKEE—The recently completed construction of two new buildings, for the Detroit and Greensboro, N. C., branches, has been announced by Johnson Service Co. here, manufacturer of automatic temperature control systems.

The relocation and enlargement of the two branches are part of the company's nationwide program of continued expansion and improved service for Johnson customers in the 72 cities where direct branch offices are maintained.

The Detroit building, at 840 Hilton Rd., Ferndale, is located in the center of the area where the majority of heating contractors are, as well as large numbers of architects and engineers. It will also make possible better servicing of outstate customers without reducing the present service to Detroit buildings.

The new building occupies 6,300 sq. ft., of which 1,800 sq. ft. is in office space and the remainder in warehouse and shop facilities.

Service Billing and Record Form

McCARTY BROTHERS EQUIPMENT CORPORATION

TELEPHONES
EUCLID 7000
FOREST 3600
ES tabrook 8-8228

7801-11 Lake Street
RIVER FOREST, ILLINOIS

DATE_____

CHG. ☐ C.O.D. ☐ GRATIS ☐ CALL BACK ☐ S.C. ☐ GUARANTEE ☐

NAME

STREET

CITY | H. P.

MAKE | UNIT SERIAL NO. | COMPRESSOR NO

NATURE OF TROUBLE

INSPECTOR

TIME ARRIVED		LABOR	
TIME FINISHED		PARTS	
TRAVEL TIME		PARKING	
TOTAL TIME		TOTAL $	

INSPECTOR COMPLETED WORK SATISFACTORILY

CUSTOMER'S SIGNATURE

RECEIVED PAYMENT $_____

PAYMENT RECEIPT 66530

INSPECTOR

AUDITOR

SERVICE BILLING AND RECORD FORM carried in pad form by each serviceman enables him to put down the necessary information on each call, and if payment is made in cash, a carbon copy serves as the customer's receipt.

Ansul Office, Warehouse Opened In Kansas City

MARINETTE, Wis.—Ansul Chemical Co. recently opened a new office and warehouse at Kansas City, Mo., with more than 300 customers and suppliers in attendance at a housewarming.

Roy McCrady

The new building at 3301 Gillham Rd., is headquarters for the sale of the company's refrigeration products, dry chemical fire equipment, and industrial chemicals in the southwest. Territory to be serviced includes Missouri, Kansas, Nebraska, southern Illinois, Arkansas, Oklahoma, and the Texas panhandle.

Supervising operations of the new 10,000-sq. ft. building are Roy McCrady, refrigeration district manager and C. H. Armstrong, regional fire equipment manager. Robert Brewer and Thomas Gorman assist Armstrong.

UsAirco Dividend Set

NEW YORK CITY—The board of directors of United States Air Conditioning Corp. recently declared a dividend of $1.75 per share on its preferred stock, payable Nov. 18, 1953 to holders of record Nov. 9, 1953. Giving effect to this dividend, arrears on the preferred stock will amount to $15.75 per share as of Nov. 1, 1953.

"it's a SNAP to SERVICE

Tenney TW* Unit Coolers

*TW means twin fans and motors

. . . when I take out this one thumb screw, I can reach everything easily. It's a serviceman's dream!"

That's how Ed Manigan of Manigan Bros. Service Co., Newark, N. J., feels about the new Tenney TW's. That big wide grin shows his satisfaction as he points out this exclusive Tenney feature in the meat storage room of the famous Newark restaurant, The Tavern.

Servicemen all over the country are joining Ed in praise of Tenney TW's, the *completely accessible* coolers. Here's why: you can reach all components, fans, motors, and valve connections without disturbing a single installed refrigeration, electrical, or water drain line. Remove one thumb screw and the whole unit opens for service.

And what a design! TW's are semi-circular for all-over air distribution. Standard twin fans and motor give extra safety—one fan and motor alone will hold safe box temperature until serviced. Then the standard high-quality Tenney features: non-ferrous coils, facetized fins, rust-proof baked-enamel finish, and engineered ratings.

Interested? Write Dept. E for Bulletin 104-53 . . . but do it today!

Pats. Pending.

Tenney ENGINEERING, INC.
26 AVENUE B, NEWARK 5, N. J.
Plants: Newark, N. J., Union, N. J., and Baltimore, Md.
Engineers and Manufacturers of Automatic Temperature, Humidity, and Pressure Control Equipment

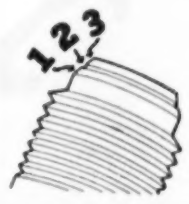
SEE US AT THE R.E.M.A. SHOW NOV. 9-13 BOOTH 219

NOW Make sure you get

TRIPLE-SEAL Tightness in every joint

"It's All in the Groove"

IMPERIAL Triple-Seal
HEAVY WEIGHT
FLARE FITTINGS



Imperial Heavy-Duty Triple-Seal Flare Fittings have 3 seals to give you new extra protection against leakage.

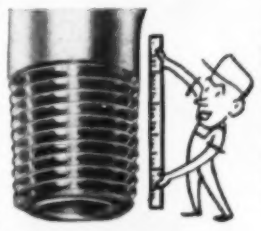
Assure extra protection against leakage

Here is how it works: When the flare nut is drawn up, the copper tubing is forced into the groove as well as against the two faces of the seat making a tight, *triple-seal* joint. This feature provides *extra* protection against leakage; enables these fittings to hold higher pressures. Groove is included on all sizes ⅜" and larger.

In addition, Imperial Triple-Seal Heavy-Duty Flared Tube Fittings are heavier than ordinary flared fittings, have greater wall thicknesses and larger wrench flats. Elbows, tees and nuts are *forged* for greater strength. Designed for refrigeration applications.

Long Dryseal pipe threads on pipe thread ends assure tight joints—are especially valuable in reconnecting.

Now, use Imperial Triple-Seal Flare Fittings . . . make sure you get this extra protection against leakage.



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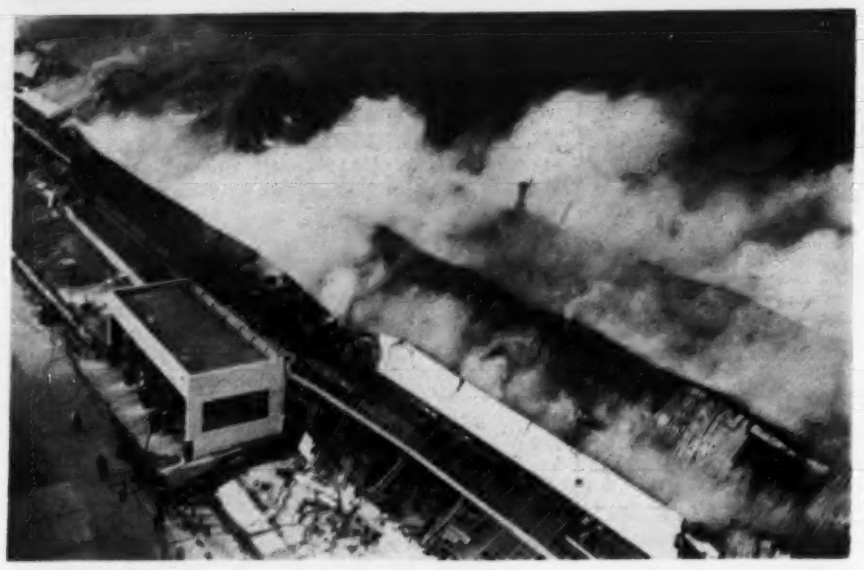
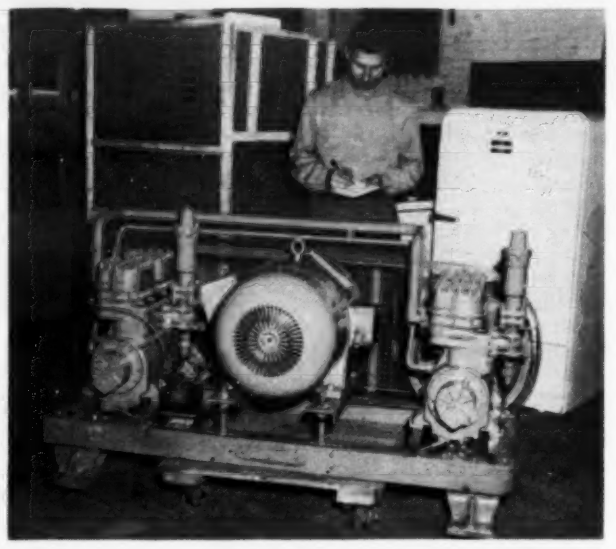


REFRIGERATION units survive this fire? That didn't seem possible for 21 machines located in a rooftop penthouse when the $70,000,000 blaze destroyed General Motors' transmission plant in Livonia, Mich. ("Detroit News" photo.)

ABOVE: Here's what some of the equipment looked like when it arrived at Refrigeration Service, Inc., for rebuilding. As Russell Unger, shop foreman, tags a motor, Ed. Neal inspects two compressors.

RIGHT: Rebuilt at half the cost of new units, one of the 25-hp. Frigidaire machines is checked out of the shop by Unger for shipment to Willow Run, where GM is establishing transmission production facilities.



Units Survive $70 Million Fire

27 Machines Which Helped Air Condition GM Transmission Plant Are Completely Rebuilt by Refrigeration Service Firm

DETROIT—When the $70 million fire roared through and destroyed General Motors' transmission plant in nearby Livonia some weeks ago, it seemed likely that the 27 condensing units in the air conditioning system would be a total loss.

In fact, plant officials would have immediately junked the machines at a nod from Ed. Neal, who heads up service operations for Refrigeration Service, Inc., authorized Frigidaire repair firm in the Detroit area.

After taking a long, careful look at the blackened 25-hp. Frigidaire units in the tangled wreckage, however, Neal suggested, "let's see if we can rebuild a couple first."

Officials who saw copper discharge lines twisted into grotesque shapes beyond a serviceman's wildest nightmare were skeptical, but they told Neal to try if he wished.

Refrigeration Service, in fact, rebuilt three units, at a cost that ran about half of what new machines would represent, so the go-ahead signal was given on all 27 machines. Thus far eight machines have been completely rebuilt and 10 more are now in process.

As soon as the first units arrived at the shop, Neal had an inkling that the rebuilding job might go better than even he hoped.

"Although they had been subjected to intense heat, we found we could turn the flywheels of the units by hand," Neal said. "This meant that the bearings and pistons hadn't seized."

Twenty-one of the 27 condensing units serving the Livonia plant air conditioning system were located in a penthouse over the factory area. Here heat from the flames below was so intense that silver solder ran out of joints, heavy copper piping sagged and twisted, and even babbitt flowed from compressor bearings, Neal found.

It was fortunate, Neal added, that the floor of the penthouse didn't give way and drop the units. If this had happened, it is not probable that they could have been reconditioned. As it was, however, the penthouse floor sagged to a considerable angle due to the fire.

Also most important, no water reached the units during and after the blaze.

"If water had touched the units, it's likely that the cast iron compressor bodies would have cracked or at least shrunk and seized the pistons," Neal believes.

Water pressure was reportedly low during the early minutes of the fire but even after pressures came up, firemen were unable to throw water on the penthouse which was located some distance from the outer walls of the factory.

This meant that the compressors were allowed to cool down to normal temperatures slowly enough that compressor body castings and other heavy parts such as crankshafts and flywheels were not cracked or distorted in shape.

The six units not located in the penthouse will probably offer little or no problems in reconditioning, according to Neal. These had been installed on the main floor and apparently only damage was blistering of paint, he said. No work has been done on these as yet.

The other machines that are coming into Refrigeration Service are delivered by the salvage crews reasonably intact in some instances, but in other cases just as a load of compressor bodies, motors, and frames which at first glance would seem destined for a scrap furnace.

The 25-hp. electric motors on each unit (driving two compressors) are sent to a motor rebuilding firm, but the refrigeration firm is doing the rest of the work.

First step is to sandblast the compressors and frames, after which the compressor bodies are completely disassembled.

Then a complete check is made of all the inner parts. All bearings and oil pumps, for example, are carefully inspected and replaced if necessary.

"Condition of the compressors has been remarkable," Neal says. "Thus far we have replaced no crankshafts, pistons, or connecting rods. We've had to replace a few bearings because the heat of the fire melted the babbitt."

The actual repair job, however, is easier described than performed, Neal points out.

"Toughest job is pulling the flywheels and pulleys."

Compressor bodies are reassembled with all new gaskets, sight glasses, etc. and then run on test. During this test, oil pumps and bearings are checked with extreme care to make sure that proper lubrication is being provided. A hot bearing might also indicate that the crankshaft was out of alignment.

Following this test the compressor bodies are dehydrated and painted and then mounted on the bases, which have been reconditioned in the meantime. Next follows installation of equalizing oil lines, discharge lines, crankcase equalizing lines, and other necessary components.

When the completed assembly passes a pressure test for leaks performed with an electronic "snifter" type leak detector, the compressors are charged with oil and a holding charge of refrigerant. The complete job is then repainted, after which the motor and guard are attached in place.

For the time being, the reoperated units are being shipped to Willow Run where GM has leased space to resume manufacture of automatic transmissions.

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Truly, it's no effort at all to bend dead-soft Dryseal. No tools are needed, just bend it by hand. And the special temper of the copper used, and its ductility, are the reasons Dryseal will not split when flared for compression fittings. Another thing you'll like about Dryseal are the special, precise, mechanical, double-crimped ends. This double crimping is the last step in the manufacture of Dryseal, and assures you of receiving a bone-dry, dirt-free tube.

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Commercial Refrigeration

In Medium-Sized Town

Commercial Dealer Lists Equipment It Sells and Type of Business Purchasing It

TOLEDO—Where does a typical commercial refrigeration and air conditioning firm in a medium-sized city sell its products?

One answer to this question is provided by a list prepared recently by Ken Tyler, sales manager of Davison Associates, Inc. here. It covers company sales of major products during the second quarter of 1953.

The list shows that new installations by the firm in this period included 44 window-type air conditioners, 24 compressors, 20 store-type air conditioners, 19 self-serve cases, 14 automatic ice cubers, eight reach-in refrigerators, six pressure water coolers, four ice cream cabinets, two central station units, two dry bottle refrigerators, and one dry bottle cooler.

Following are the types of establishments which bought this equipment and the amount each type purchased:

Taverns—six store conditioners, a pressure water cooler, 12 automatic ice cubers, and six compressors.

Restaurants — two store conditioners, five reach-ins, an automatic ice cuber, a compressor, a pressure water cooler, an ice cream cabinet, and a central station.

Beauty shop—a store conditioner.

Clubs—two reach-ins, a dry bottle cooler, and a pressure water cooler.

Industrial establishments — nine store conditioners, five window conditioners, a dry bottle refrigerator, and two pressure water coolers.

Groceries—two store conditioners, one window conditioner, 15 compressors, three ice cream cabinets, and 19 self-serve cases.

Bakeries—a reach-in and an automatic ice cuber.

General offices—21 window conditioners and a pressure water cooler.

Residences—eight window conditioners.

Dress shop—a central station.

Doctors' offices—six window conditioners.

Barber shop—three window conditioners.

Florist—two compressors.

Dairy—a dry bottle refrigerator.

Davison also installed five replacement compressors during April, May, and June. One of these went into a restaurant, one into a florist shop, and three into a grocery.

C. E. Titchener Dies on Eve of 92nd Birthday

BINGHAMTON, N. Y.—Charles E. Titchener, director of several Triple Cities businesses and industries, died Oct. 26 on the eve of his ninety-second birthday. He had been ill.

Titchener rose from a shipping clerk's job to become president of the former manufacturing firm of Crandall, Stone & Co., now Brewer-Titchener. He was the uncle of Paul F. Titchener, president of E. H. Titchener & Co.

Kimball To Represent Conrad on West Coast

HOLLAND, Mich. — Appointment of Raymond Kimball of Pasadena, Calif., as the west coast representative for Conrad, Inc. here, manufacturer of environmental test chambers and ultra low temperature refrigeration systems, has been announced by C. F. Conrad, president.

Kimball has been associated with electronics laboratories and manufacturing plant management on the west coast for the past 20 years.

Kelvinator Names DeCamp Manager of Chicago Zone

DETROIT—Appointment of W. E. DeCamp as manager of Kelvinator's Chicago zone office was announced recently by D. A. Packard, general sales manager.

W. E. DeCamp

DeCamp will assume duties relinquished by H. A. Dahl, who has announced plans for retirement next year. Dahl in the meantime will continue with the Kelvinator organization on a special assignment basis.

DeCamp joined the Chicago office as a district manager in 1945, became manager of the Des Moines branch two years later, and was appointed zone household sales manager in 1949.

He has been assistant zone manager since 1951.

Controlled Cooling Water Treatment Is Described

PHILADELPHIA — Instrumentation Data Sheet No. 9.6-7, "Controlled Cooling Water Treatment," available from Minneapolis-Honeywell Regulator Co.'s Industrial Div., describes the completely automatically controlled feeding of sulfuric acid and sodium dichromate and the continuous regulation of blow down using recording and indicating "ElectroniK" potentiometer with "Air-O-Line" control.

SEAGOING LANDLUBBER —Servel's portable electric "Wonderbar" refrigerette is now made in dual-voltage a.c.-d.c. models for use aship or ashore. This photo shows a Wonderbar in operation on the low-voltage d.c. electric system of a boat. The same refrigerette may be taken home or to the office, and operated on standard 115-volt a.c. current.

3 'Wonderbar' Refrigerettes Designed To Function Aboard Ship as Well as on Shore

EVANSVILLE, Ind. — Three new dual-voltage models, recently added to the Servel electric "Wonderbar" refrigerette line, may be used aship or ashore.

By the flip of a toggle switch these models can be instantly converted for use on either low-voltage d.c. power or standard-voltage a.c. power, according to Neal E. Schuman, Wonderbar sales manager for Servel, Inc.

"While the craft is cruising," Schuman said, "the Wonderbar can be operated on the boat's electric system. When the craft is docked, the refrigerette can be connected to any standard current outlet."

Another advantage of the dual-voltage models is that the Wonderbar may be used in the home or in the office during the week, and then placed on the boat over weekends or on vacation cruises.

The new Wonderbar models are offered in the following voltage combinations: 12 d.c.-115 a.c., 24 d.c.-115 a.c., 32 d.c.-115 a.c. These voltages are available in three standard finishes—mahogany, blonde, or white.

The refrigerette's storage capacity of nearly 1½ cu. ft. provides space for as many as 25 soft drink bottles, 12 quarts of milk, or 42 cans of beer. It will also accommodate siphon-size bottles. It freezes 28 ice cubes in snap-out trays, and is equipped with a chill shelf for snacks.

Suggested retail price of all dual-voltage refrigerettes is $175.50.

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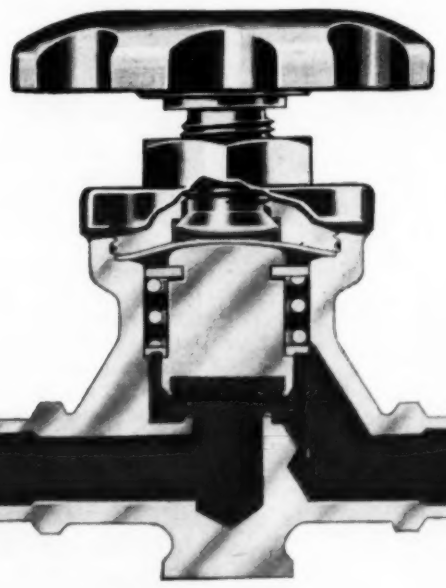

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Motor Burnout Survey

Inherently Protected Motors Can Reduce Burnouts 80%; Hirshberg of Spencer Thermostat Reports Shop Findings

FORT WAYNE, Ind.—"Field surveys to date indicate that inherent motor protectors reduce burnouts among motors coming into the repair shops by a factor of 80%," says W. L. Hirshberg, Jr., of Spencer Thermostat Division, Metals & Controls Corp.

A detailed study of motors in repair shops was presented by Hirshberg at the conference on application of motors to air moving equipment sponsored here by the Fort Wayne section, American Institute of Electrical Engineers.

"The field survey data records include a case which clearly illustrates the importance of proper protection of fan and blower motors. Because of a tripping inherent protector, it was found that a centrifugal blower unit was being operated without its air filters. As a result the motor which normally carried 4.7 amperes (which was full load rating) actually was operating at 7 amperes representing a considerable overload. The motor user originally complained that the motor was defective. Actually a potential motor burnout was prevented by the inherent protector," he declared.

"Possible burnout situations similar to this could arise on any type of unattended equipment such as blowers for heating and refrigeration units, and for attic ventilating fans. (Even propeller type fans could be included in this grouping—How many times have you walked out of a room leaving the fan operating, unattended?)

"This story then is probably one of many which illustrate that air moving equipment should be provided with proper motor protection.

"An inherent overheat motor protector is a thermal device built into the motor for the purpose of disconnecting the motor from the line before the motor exceeds a temperature limit which may be defined on the basis of considerations including safety and insulation life," Hirshberg reminded the conference.

"In a properly coordinated motor circuit, the inherent overheat protector provides protection of the motor and associated control equipment up to the minimum amount of current required to trip the branch circuit over-current protector. For currents in excess of this, the circuit protection is the responsibility of the circuit over-current protector. The inherent protector is at the motor end of the circuit and is not intended to protect against grounds or short circuits in the line or in the motor windings," he explained.

"Theories are borne out by field experience. To obtain constructive indications of inherently protected motor performance, we decided to investigate troubles and looked for these in motor repair shops. Thus, our studies were made in electric motor repair shops where all the motors in the sampling had some type of trouble such as worn bearings, burned windings, etc.

Motors Divided Into 4 Groups

"In these studies all the motors coming into the shop for repair were divided into four main groups as follows:

"(1) Motors with inherent protection.

"(2) Motors with 'Klixon' inherent protection.

"(3) Motors without inherent protection. These motors had over current protection mounted away from the motor.

"(4) Motors where the protector previously had been removed or electrically by-passed.

"To date five surveys have been completed in motor repair shops. The first survey . . . was run in a shop in Pennsylvania in 1948. It is of interest to recall that this study originally was started at the request of a large merchandising organization for methods whereby protectors could be applied in the repair shop to motors not previously equipped with built-in protectors by the motor manufacturer. In this 1948 survey over 3,000 motors were examined during a period of several months. The information obtained indicated the desirability of continuing this work and led to our motor repair shop study program.

Survey Covered 1,047 Motors

"Data on the first 1,047 motors was accumulated in approximately five weeks. The study was continued to determine whether a large enough number of samples were involved and the data shows that the survey could have been discontinued anytime after the first 1,000 motors without appreciably changing the percentages obtained. This observation was used as a guide in further surveys to determine when enough data had been collected to consider a survey completed," Hirshberg said.

"The second survey was run in two different repair shops located in the same city in Alabama in the summer of 1951. In order to determine whether there would be any seasonal differences, the third survey was conducted in the same two shops again in the winter of 1951-1952 . . . . Following the southern survey, two additional surveys were made in the northeast.

"It is interesting to note . . . among motors of all types going to repair shops Klixon built-in protection reduced winding burnouts from 43.3% to 8.4%—a reduction of 80%.

"It is also noted that 38.9% of motors with inherent protectors bypassed had burned out windings. This compares with 43.3% windings burned out in motors without inherent protectors. It is evident from this that removing or by-passing inherent protectors places these motors in the same category as motors not inherently protected. It is a check on the consistency of the data.

"A tabulation of burnouts by motor usage shows to what extent inherent protection is effective in reducing motor winding burnout. The analysis indicates reduction in burnout by Klixon protection as follows:

"(1) Among fan motors going to repair shops, built-in protection reduced burnouts from 52.9% to 19.2%—a reduction of 63.8%.

"(2) Among oil burner motors going to repair shops, built-in protection reduced burnouts from 33.3% to 3.1%—a reduction of 90.6%.

"(3) Among pump motors going to repair shops, built-in protection reduced burnouts from 39.4% to 17.5%—a reduction of 56.4%.

(4) Among open refrigerator motors going to repair shops, built-in protection reduced burnouts from 19.7% to 3.1%—a reduction of 84.2%.

"(5) Among miscellaneous motors going to repair shops, built-in protection reduced burnouts from 24.4% to 3.8%—a reduction of 84.5%.

"(6) Among the washing machine motors going to repair shops, no burnouts were reported among Klixon protected motors. 74.1% of the washing machines without inherent protection were burned out.

"It is evident from these figures that inherent or built-in protection substantially reduces the percentage of burned out motors in each motor application," Hirshberg declared.

Grounds, Shorts Blamed In Protected Motors

"Even though inherent protectors are effective in reducing burnouts, there is the question of why there should be any motors equipped with inherent protectors appearing in repair shops with burned out windings. Some of the burnouts are caused by abuses. By-passed inherent protectors and wrong electrical connections are examples. Some are caused by grounds or shorts in the motor which is beyond the function of the inherent protector.

"Others are caused by unusual conditions which may occur during the life of some types of motors and for which conventional inherent protectors may not protect. Continued field experience on the part of the motor industry and motor users will determine the advisability of using special inherent protectors to minimize burnouts from these unusual conditions.

"Fan and blower motors were grouped in all surveys under the "fan" motor classification. A total of 393 fan motors were recorded in the surveys.

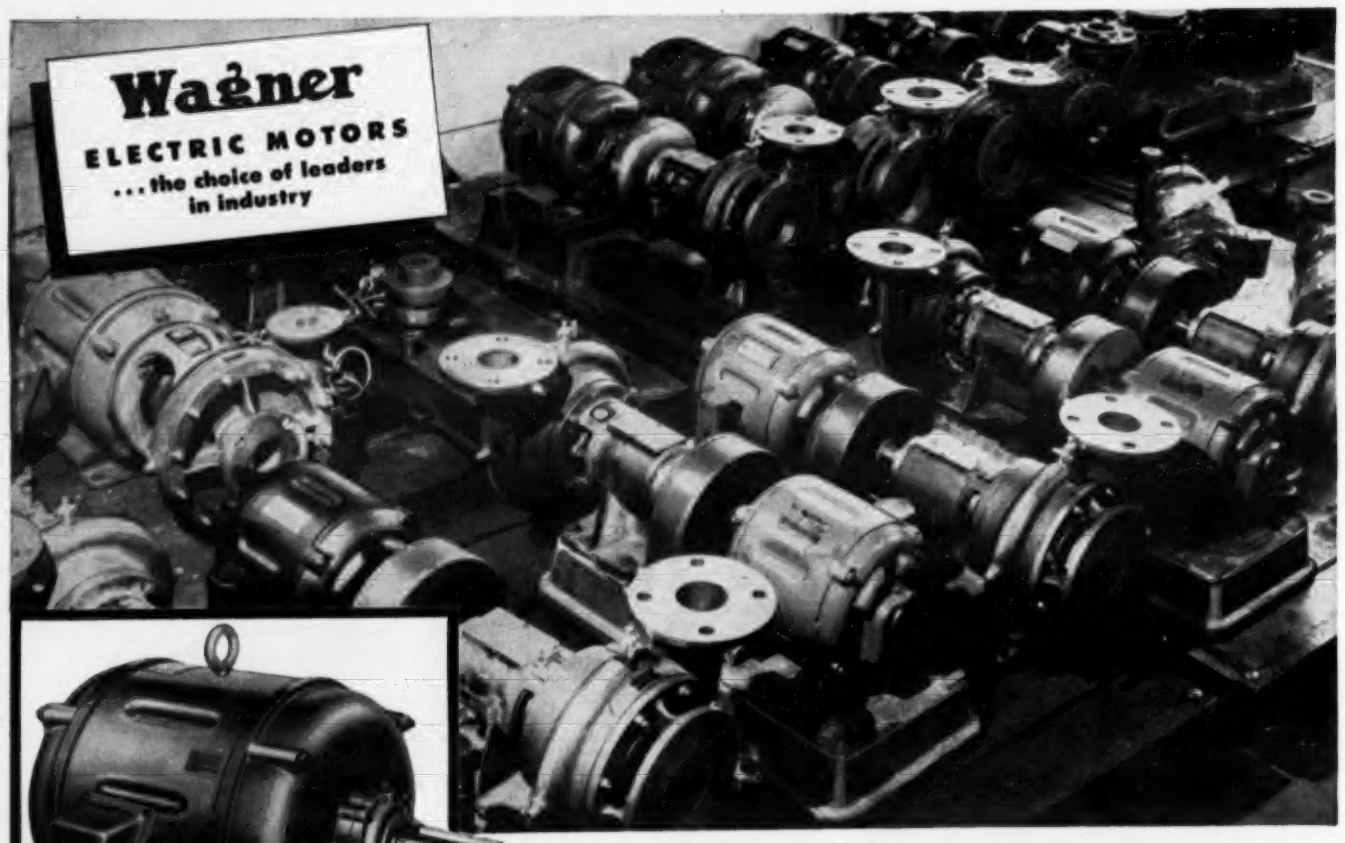
"A detailed analysis of fan motor troubles shows the most numerous trouble recorded was starting switch failure. The second most numerous trouble recorded was 'all windings' burned.

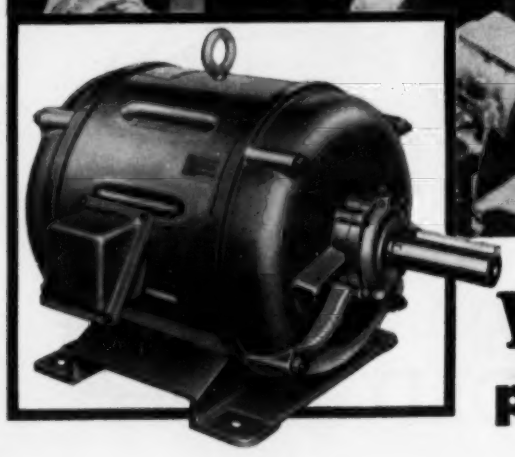
"The fan motor data total percentages to date are compared with the

(Concluded on next page)

Detailed Analysis of Troubles of Inherently Protected Motors Examined In Repair Shop Survey 1.

	Number of Motors	Protector O.K.	Protector Needs Reset	Protector Defective	Heater Burn Out	Protector Broken	Protector Tampered With	Start Winding Burn Out	Main Winding Burn Out	Both Windings Burned Out	Short In Start Winding	Short In Main Winding	Grounded	Start Switch	Bearings	Starting Relay	Field Open	Off-On Switch	Broken End Bells	New Leads	New Cap	Inspection Only	End Play
PUMP MOTORS																							
Klixon—Auto.	80	71			4	2	3	19	7	8	1	8	4	82	23	5	2	1	2	1	5		
Klixon—Manual	36	31		1	1	1	2	13		1	1	1		12	5		4		1	3	3	4	1
Klixon—Total	116	102		1	5	3	5	32	7	4	2	4	4	44	28	5	6	1	3	4	8	4	1
Others—Auto.	28							9	1	1			9	12	13		3					1	
Others—Manual	229							138		5		5	6	141	141		12		2	3	8	10	
Others—Total	257							147	1	8		5	15	153	154		15		2	3	8	11	
Over-all Total	373							179	8	10	2	9	19	197	182	5	21	1	5	7	16	15	1
GENERAL PURPOSE																							
Klixon—Manual	300	191	54	11	2	18	28		2	3		12	6	35	19		6	9	47	28	11	47	9
Others—Manual	37							2						7	10			4	4	5	2	2	3
REFRIGERATOR																							
Others—Auto.	95							1	1	1				30	88				8	2	19	3	1
OIL BURNER																							
Klixon—Manual	12	9				2	1	2			1	1	1	3	1		4						1
OTHER MOTORS																							
Klixon—Auto.	43	42			1			4	1	5		1	2	10	13						3	5	4
Klixon—Manual	1		1																				
Klixon—Total	44	42	1		1			4	1	5		1	2	10	13						3	5	4
Others Auto.	9							1		1			1		5				1		1	2	1
Others—Manual	1									1				1	1								
Others—Total	10							1		2			1	1	6				1		1	2	1
Over-all Total	54							5	1	7		1	3	11	19				1		4	7	5
GRAND TOTAL (All Types)	871							189	12	21	3	23	29	283	316	5	31	14	65	42	52	74	20





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Summary of Types of Burnouts on Motors Examined in Repair Shop Survey 1.

	Total Number	% Of Motors	No. Of Burnouts	% Of Burnouts In Total	% Of This Type Burned Out	Main Wind. Or Both Burned Out	% Of Main Wind. Burnouts	Start Wind. Burned Out	% Of Start Wind. Burned Out
NOT INHERENTLY PROTECTED MOTORS									
Washing Machine	1,211	62.6	917	47.4	75.6	14	1.5	903	98.5
Refrigerator	162	8.4	22	1.1	13.6	18	81.8	4	18.2
Oil Burner	7	0.3	2	0.1	28.6	1	50.0	1	50.0
Pump	79	4.1	46	2.4	58.3	22	47.8	24	52.2
General Purpose	290	15.0	94	4.9	32.4	29	30.8	65	69.2
Others	186	9.6	79	4.1	42.5	11	13.9	68	86.1
Total	**1,935**		**1,160**			**95**		**1,065**	
INHERENTLY PROTECTED MOTORS									
Washing Machine	....	....	....	....	....	....	....	....	....
Refrigerator	119	11.1	4	0.4	3.4	2	50.0	2	50.0
Oil Burner	15	1.4	3	0.3	20.0	2	66.7	1	33.3
Pump	456	42.4	249	23.1	54.6	35	14.0	214	86.0
General Purpose	437	40.6	19	1.8	4.4	10	52.7	9	47.3
Others	49	4.5	11	1.0	22.5	6	54.5	5	45.5
Total	**1,076**		**286**			**55**		**231**	

Trouble Found In Protected Motors Analyzed

(Concluded from preceding page)

summary of 'all motor' data in the discussions below.

"The following was noted:

Category	Fan Motors	All Motors
% of burned out motors that did not have inherent protection	90%	84.7%
% of burned out motors that did have inherent protection	10%	14.3%

Besides protecting the appliance manufacturer and motor manufacturer against customers' complaints, another aspect of proper protection is reduction in fire hazard. Several groups including the International Association of Electrical Inspectors, the National Fire Prevention Association, interested insurance companies, and electric utilities are concerned with fires of electrical origin and have been gathering records accordingly. Fire reports from the City of Chicago are in close agreement with the national data reported.

"It is of particular interest to note the percentage of electrical fires from motors increased from approximately 12% to 40% during the same time the percent of electrical fires originating from flatirons decreased from approximately 30% to 8%. The thermostatically controlled flatiron was introduced in quantity production in the early thirties and in a relatively few years flatirons have improved their fire record through the addition of thermostats. Today the industry sells very few non-automatic flatirons.

"The thermostat, which started out only as a protective device and which has improved the flatiron fire record, is now almost a necessity. It was found that the properly installed thermostat also made it possible to put more wattage into the iron and reduce its weight. The result has been a better product for the user."

Hirshberg offered these conclusions:

"The survey data indicates that fan and blower motors are among the group involving the highest percentages of winding burnout and therefore, proper overheat protection should help to improve this situation.

"The various codes, recognizing that many fans and blowers are properly classified as unattended, spell out proper motor protection.

"Of the inherent protected motors coming into repair shops, only 6% have had the protector by-passed but in this group 38.9% were burned out. We conclude there is comparatively little cause such as nuisance tripping for inherent protectors to be by-passed. When the inherent protector does trip and it is by-passed the application is in trouble.

"The purpose of putting an inherent protector in a motor is to prevent the motor temperature from exceeding a safe limit under any operable condition, We would expect that one result of the increasing use of inherent protectors may be a reduction of motor burnouts (on a percentage basis) appearing in repair shops. The field surveys to date indicate that inherent protectors reduce burnouts among motors coming into the repair shops by a factor of 80%."

Analysis of Problems In Inherently Protected Motors

Included as one of the "illustrations" in the accompanying paper presented at the Fort Wayne conference by Hirshberg was the following detailed analysis of troubles involving inherently protected motors in Survey 2.

A detailed study was made of the 907 motors recorded in the summer 1951 survey. 177 of these 907 motors were originally equipped with Klixon protectors and were studied more closely.

There were 30 of these 177 motors in which the protector has been "shorted out" or "by-passed" either by the motor owner or by a repairman. It was noted that of these motors—

(a) 13 of the 30 had burned windings, 8 of these 13 were pump motors;

(b) 26 of the 30 were dual-voltage motors;

(c) 2 of the 30 were saw motors, 13 were pump motors, 12 were refrigerator motors, 2 were fan motors, and 1 was a general purpose motor.

This left 147 motors which still had the Klixon protector connected electrically in the motor circuit.

Only 7 Klixon protectors out of the 147 measured "open" circuit between terminal 2 and 3 of the protector, indicating a heater burnout. It was noted that of these 7 motors with heater burnouts—

(a) all 7 were dual—voltage motors;

(b) 5 heater burnouts, from all indications, were due to the motor being improperly connected. (That is, the motor was connected internally for 115 volts, but connected to a 230 volt supply.)

(c) one had the protector connected incorrectly in the motor circuit.

(d) one of the motors was shorted.

Other necessary Klixon protector replacements due to such things as terminals burned, adjusting screw tampered with, base cracked, bimetal and contact trouble, wrong rating installed, foreign matter on contacts, [illegible] leads for 230 or 115 volts and cycling complaint did not appear more than twice each in this survey.

There were 19 Klixon protected motors burned out among the 147 Klixon protected repaired motors studied. Six of these had all windings burned, 3 of these had only main windings burned, and 10 of these had only start windings burned.

(a) Eight of these 19 motors were pump motors. Three of these 8 burnouts were due to the motors being connected to 230 volts when they were internally connected for 115 volt operation. In another case the owner of the motor tinkered with the start switch and possibly burned out his motor in that way.

(b) Seven of these were fan motors. Two of these fan motor burnouts were single phase motors which had been connected to a three phase line.

Protectors from the other five motors were examined in the laboratory. Two checked within factory inspection limits. One checked actually lower than the tolerance. One had a heater burned open and welded back together. The other protector, a manual reset, showed evidence of having been hit with a hammer.

(c) A total of 12 of these 19 motors were dual-voltage motors.

In every group of Klixon troubles discussed above, the most often repeated comments seemed to concern the dual-voltage motor. For convenience these statements are repeated below:

(a) Of the 7 cases of heater protector burnout, all were dual-voltage motors.

(b) Of the 30 cases of the Klixon protector being shorted out, 26 were dual-voltage motors.

(c) Of the 19 cases of motor burnouts 12 were dual-voltage motors.

It was noted in our travels that some of the repairmen at the bench were not familiar with dual-voltage protected motor connections. It was also noted that some repair shops did not stock protectors necessary for replacement. Also, some of the shops' customers were not sure what voltage they were going to use on the motor they wanted repaired, and did not know how to externally connect motors for 230 or 115 volts.

Modern styling, quiet, efficient, sturdy construction. Hermetically sealed condensing unit with motor driven fan for maximum condenser cooling in hottest climates. Fully guaranteed.

New style and low price permits sale or rental to meet and beat competition.

BE SURE TO SEE US NOV. 9TH TO 12TH
BOOTH 812
REFRIGERATION EXPOSITION CLEVELAND

REMCOR PRODUCTS CO.
321 EAST GRAND AVE.,
CHICAGO, ILLINOIS

THE MASTER SERVICE MANUALS — — — — — — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.
BUSINESS NEWS PUBLISHING CO., DETROIT

NO SPECIAL WIRING! NO SPECIAL PLUMBING! ONLY ½ H. P. TO EACH CABINET!

required for this—

42 feet of Zero selling space!

$185.00 in frozen food sales per week-end day from these six new 17 cu. ft. merchandisers, reports Frank Lamfalusi, proprietor of FRANK'S SUPER MART.

Increased sales . . . compact design . . . low cost of installation and operation of GF-17's pleases Gary, Ind. super market operator. Here's what he says: "*From every standpoint—performance, economy, dependability—Kelvinator low temperature cabinets have, in my experience, been by far the best.*"

102 *cubic feet . . . 42 lineal feet,* of zero selling space—plus plenty of unrefrigerated display shelf area in illuminated super-structures of these six eye-appealing, sales-attracting Acco GF-17 frozen food merchandising cabinets from Kelvinator. Compare their amazingly low cost with any other Thermopane glass front cabinet of similar size.

For full information see your local Kelvinator representative—or write Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

FRANK'S SUPER MART
5401 WEST 11TH AVENUE · GARY, INDIANA

Mr. J. A. Komar - Commercial Sales Manager
Nash-Kelvinator Sales Corporation
6700 North Lincoln Avenue
Chicago 45, Illinois

Dear Mr. Komar:

You will find enclosed a photograph of the six recently installed GF-17, Kelvinator frozen food merchandising cabinets purchased from your distributor E. J. Byman Co., Calumet City, Illinois.

I'm really proud of this handsome line-up of 102 cubic feet of zero selling space that really sells. My frozen food "department" formerly consisted of a medium size ice cream cabinet from which sales averaged $15.00 per week end day. Since installing these new GF-17s, frozen food sales have jumped to $185.00 per week end day.

In my many years of grocery merchandising experience, I have had occasion to use many makes of ice cream cabinets. From every standpoint -- performance, economy, dependability -- Kelvinator low temperature cabinets have, in my experience, been by far the best.

When the new GF-17 model was introduced, I was immediately impressed with its compact design and appearance. Installation was inexpensive because they operate on standard 110 volt current and require no special wiring or plumbing.

In my opinion the GF-17 has no equal in its size or price class.

Yours very truly,

Frank Lamfalusi

Frank Lamfalusi, Proprietor
FRANK'S SUPER MART

Get Kelvinator

Now Do-It-Yourself Know-How on Modern Frozen Food Cabinets

Commercial Refrigeration

Commercial Refrigerator Product Ratios Depict Shift to Self-Service Display Cases, CRMA Reports

CHICAGO — Percentage ratios for sales of various *types* of commercial refrigerator products to total sales of all commercial refrigerators as reported to Commercial Refrigerator Manufacturers Association, for the years 1949 through 1952, were recently released to AIR CONDITIONING & REFRIGERATION NEWS by the association through Executive Secretary Paul H. Sullivan.

These product ratios are studied closely by manufacturers who are CRMA members (who do a big majority of the total business in the commercial refrigerator field) and are used as a guide in determining their own particular product ratios in their *manufacturing* planning.

The CRMA members, as part of the management assistance rendered by the association, get a monthly analysis of combined sales figures, thus they are able to compute their relative position within 30 days after the close of the month, and they can also compute their own product ratios monthly, as the association does annually.

Figures Aid In Sales Planning

It is felt that publication of these ratios can be of considerable assistance to commercial refrigerator distributors and dealers in their *sales* planning.

While it is true that some dealers naturally emphasize one type of commercial refrigerator product over another because of conditions peculiar to their own operation or locality, yet generally the ratios should be helpful in assisting the dealer in making plans for the kind of prospects he will approach, and determining the kind of products he will emphasize in trying to sell them.

What the percentages in the accompanying Table of figures mean is simply this: single-duty closed type or "convenional" display cases, for example, accounted for 7.3% of the dollar volume in 1949. In 1952 this had dropped to 2.8%. Double-duty display cases dropped from 15.3% to 9.6% during the same period.

Trend to Self-Serve Case Replaces Closed Case Volume

However, in the same period the figures reveal that self-service or open-type display cases went up in somewhat the same proportion. This shows that while there still remains a substantial demand for the closed type of display cases, the trend to self-service equipment has grown rapidly, and has replaced much of the sales volume that formerly went to the conventional type of case.

The reach-in refrigerator is a type of equipment that has maintained a practically steady volume of sales over the past four years.

One of the most substantial gains in any classification from 1949 to 1953 was made in vegetable cases.

There has been some fluctuation in the total volume done by the CRMA members, naturally, so that each ratio simply represents a proportion of whatever the over-all dollar volume was in that particular year.

This year (into September) industry-wide sales were running 11% ahead of 1952, and Sullivan says that the product ratios are running in roughly the same proportions as 1952, with a slight emphasis on self-service equipment in keeping with the established trend, although this latter upward curve is showing some signs of flattening out.

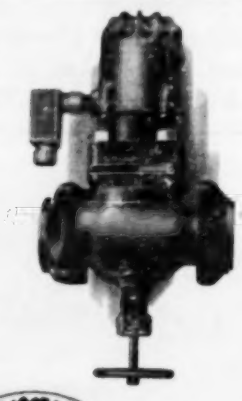
One reason for this, Sullivan points out, is that practically all of the self-service equipment installed in the past several years is still in use or will be used for some time.

Thus, on self-service equipment the industry has not reached the normal replacement period for probably over 90% of the product actually installed in the field.

The normal replacement cycle for conventional type display cases is generally put at 10 or 11 years. Since self-service equipment receives harder use it is thought that the replacement cycle for such equipment might drop to six or seven years, although there is not enough information gathered on the subject as yet to confirm this theory.

1949-1952 Ratios of Various Types of Products to Total Commercial Refrigerator Shipments As Reported to Commercial Refrigerator Manufacturers Association

Product or Classification	1949 %	1950 %	1951 %	1952 %
1. Single Duty Cases—Conventional Type	7.3	5.4	3.4	2.8
2. Double Duty Cases—Conventional Type	15.3	12.8	10.8	9.6
Total This Class	22.6	18.2	14.2	12.4
3. Single Duty Cases—Self-Service	8.2	12.3	12.6	14.2
4. Double Duty Cases	17.6	17.0	17.7	14.2
Total This Class	25.8	29.3	30.3	28.4
5. All Other Types Display Cases	1.6	.9	1.2	1.0
Total All Above Classes	50.0	48.4	45.7	41.8
6. Vegetable Refrigerators—Self Service	9.0	13.2	13.3	13.6
7. Vegetable Refrigerators—Conventional	.9	.7	.5	.8
Total This Class	9.9	13.9	13.8	14.4
8. Low Temperature Refrigs.—Self Service	13.9	14.2	15.5	17.4
9. Low Temperature Refrigs.—Conventional	.5	.4	1.0	.9
Total This Class	14.4	14.6	16.5	18.3
10. Dairy Refrigs. & Wall Boxes	3.8	2.1	1.0	2.4
11. Reach-In Refrigerators	9.8	8.2	10.2	9.9
12. Walk-In Coolers	6.5	7.2	6.3	5.4
13. All Other Equipment	5.6	5.6	5.6	7.8



FRICK Electric Control Valves

Are preferred for ammonia and Freon suction and liquid lines, unloader service, etc. Withstand 250 lb. pressure. Sizes 1" to 2½". In highly successful use 20 years. See your Frick Branch or Distributor, or write to

FRICK CO. WAYNESBORO, PENNA. U.S.A.

REFRIGERATION VALVES ❖ CUSTOM PRODUCTS

AUTOMATIC MACHINE PRODUCTS SALES CO.
ATTLEBORO, MASSACHUSETTS

INDEPENDENT DISTRIBUTOR OPPORTUNITY

VALUABLE FREEZER FRANCHISE AVAILABLE

Here is your opportunity to acquire a highly profitable freezer distributor franchise.

A leading manufacturer of home freezers has excellent opening for qualified distributors in several market areas.

Act now! All replies will be held confidential.

BOX 4426, AIR CONDITIONING & REFRIGERATION NEWS

NOW YOU CAN SELL THE MOST ECONOMICAL AND EFFICIENT LOW PRICED AUTOMATIC ICE MAKERS TO EVERY ICE USER...
(LARGE OR SMALL!)

SCOTSMAN Super Flakers

COMPLETELY AUTOMATIC CONTINUOUS-FLOW TYPE UNITS

COMPLETELY AUTOMATIC STORAGE TYPE UNITS

300 lb. Series

500 lb. Series

1000 lb. Series

300 lb. Series

500 lb. Series

1000 lb. Series

THE ONLY PERFECT FLAKED ICE
Super Flaked ice is hard and dry. Lasts longer! Never freezes or mats together and never gets mushy.

SIX COMPLETELY NEW SCOTSMAN Super Flakers FOR 1953

9 BIG SALES ADVANTAGES! These mass-market units open up hundreds of new prospects in every area. They pay for themselves 9 *different ways!* With extra long dealer discounts you make a *real profit on every sale!*

FOR EVERY ICE USER! There is a Super Flaker to fit the needs of every flaked ice user. Big volume users can reduce time and labor expenses by multiple unit installations locating one unit at every point where ice is needed.

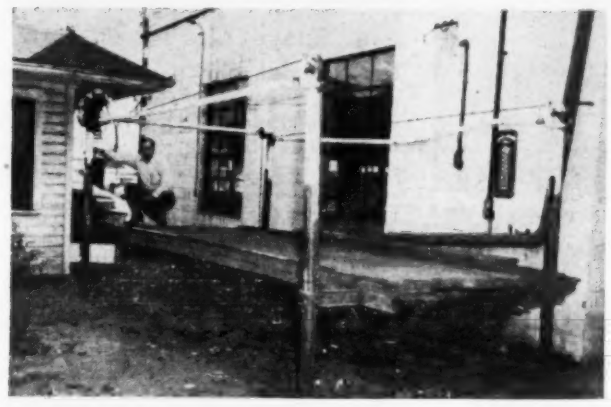
REDUCE ICE COSTS UP TO 90%! "Super Flaked" Ice for as little as 7½c to 10c per hundred pounds. These savings alone will pay for a Super Flaker . . . in many cases in *less than a year!*

LOW PRICED...PROVED DEPENDABLE! Super Flakers have the simplest, most dependable service-free flaking mechanism in the field. They are simple to install . . . *no costly plumbing is required!*

YOU ARE INVITED TO SEE THE SCOTSMAN AUTOMATIC ICE MACHINES at BOOTH 424

8th REFRIGERATION & AIR CONDITIONING EXPOSITION
CLEVELAND, OHIO

AMERICAN GAS MACHINE COMPANY, DIVISION OF QUEEN STOVE WORKS, INC.
ALBERT LEA, MINNESOTA



BARNEY SCHNEIDER, floor manager for Lawrence M. Dannemiller's commercial refrigeration distributorship in Akron, Ohio, operates the converted gas station hoist that enables him to practically unload delivery trucks single handed.

$150 for Used Hoist Is Best Investment He Ever Made, Says Commercial Dealer

AKRON, Ohio—"This old gas station hoist is the best investment I ever made," declared Lawrence M. Dannemiller, commercial refrigeration distributor here.

"I bought it second hand from a gas station for $100 and spent $50 to have it installed. But it has saved many times that amount of money."

When a delivery of new cases is being made, Barney Schneider, floor manager for Dannemiller, raises the 18 ft. platform to the level of the truck bed. The crates are slid off the truck onto the hoist. Then the truck is moved away, the hoist is lowered to ground level, and the cases slid off the hoist into the shop.

"With this hoist, Barney can unload a 12-ft. case by himself."

Industry, Civic Groups, and Local Governments Take Steps To Eliminate 'Death Trap' Menace

DETROIT—Close cooperation between industry groups, publicity services, and government officials in major efforts to help eliminate the abandoned refrigerator death trap for children was reported to the NEWS last week.

Ruby Kirk, secretary of the Winston-Salem (N. C.) Refrigeration Trade Association, reported that Mayor Marshall Kurfes proclaimed the week of Oct. 18 as "Abandoned Refrigerator Safety Week" and the board of aldermen passed an ordinance making it a misdemeanor to discard refrigerators, iceboxes, or chests without first removing doors or lids.

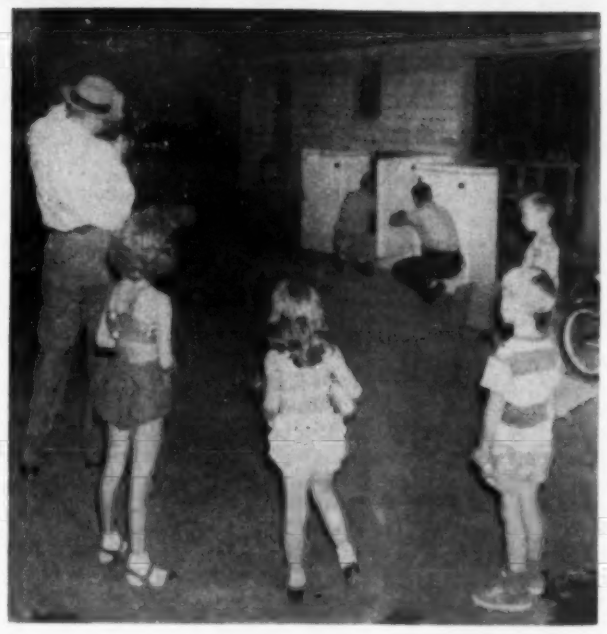
Miss Kirk said that local newspapers, radio, and television stations gave the RTA program during that week their full support and cooperation. Both radio and television stations carried safety announcements throughout the day and every day during the week.

The television stations, she said, "not only ran the films as supplied by R.T.A. of America, they used our posters and built a program around them.

EVERYBODY HELPED

"City officials, civic organizations, schools, boy scouts, business establishments, and local citizens gave us their full support and cooperation.

"The Winston-Salem R.T.A. members volunteered to make any unused refrigerator safe or remove it from the premises free of charge. The public responded beautifully."



CHILDREN WATCH AS members of the Colonels chapter of the Refrigeration Service Engineers Society remove the latches from 489 unused iceboxes at the Bowman Field housing project in Louisville. A Telenews Service cameraman (l.) shot 300 ft. of film for later use on television. The Colonels received considerable publicity locally in their campaign to rid Louisville of such potential death traps.

Sam Burks, president of the Colonels Chapter of the Refrigeration Service Engineers Society in Louisville, Ky. reported that the Louisville Housing Commission gave the chapter permission to remove the locks and handles from all 489 unused iceboxes in the Bowman Field municipal housing project. The commission specified that the parts be preserved so that the boxes could be sold at a later date.

"We called a meeting," Burk related, "and organized 'Operation Ice Box.' Forty-five members of the Colonels Chapter reported to the Bowman Field housing project and removed the 489 latches and strikes, tagging the parts with red tags. Two other smaller projects were covered later.

"The other day the housing commission voted to sell and remove every unused icebox in all three housing projects.

'OPERATION ICE BOX' WELL REPORTED

"This 'Operation Ice Box' was covered by the local papers, tape recordings were made by the radio station, and about 300 ft. of film were shot by Telenews Service.

"This was organized and planned by a committee of three members: Harold Hood, sergeant-at-arms; Harold Shuell, educational director; and Burks. We offered to remove any and all locks and hinges from any box free of charge for those who would call a number that was published in the newspaper.

"I later went to the mayor and asked for an ordinance which he gladly ordered his law department to draw up."

The ordinance was subsequently passed, Burks reported, and provides for a $100 fine for persons who keep boxes which cannot be opened from the inside in places accessible to children.

In Erie, Pa., Mayor Thomas Flatley set aside the week of Oct. 26 as "Death Trap Ice Box Removal Week" to call attention to a campaign by the local Waste Material Dealers Association to collect all old iceboxes and render them harmless.

In Augusta, Ga., R. L. Amick became the first to be fined under the city's new death trap ordinance. He was fined $10 and warned against leaving old iceboxes unguarded.

I-H MANUAL CARRIES WARNING

International Harvester Co. has announced that owner's manuals distributed with new International Harvester refrigerators and freezers will carry a warning against the danger of suffocation inherent in discarded refrigeration equipment.

Prominently displayed on the outside of each manual is this wording:

"Caution

"When storing or otherwise taking out of service any piece of refrigeration equipment, be sure that one of these three precautions is taken to prevent suffocation of anyone accidentally becoming locked within:

"1. Remove the door gasket, or
"2. Remove the latch strike, or
"3. Remove the door."

Pointing up the necessity for all this, two more children lost their lives in discarded iceboxes in mid-October. This sets at 21 the total of such deaths since the Hallman tragedy last August. The Hallmans lost five of their children in an old ice chest.

TOLL REACHES 21

The two latest victims were nine-year-old Thomas Kiely of Oroville, Calif. and four-year-old David Allan Bowdoin of Highland Falls, N. Y. The Kiely boy was found by his brother crumpled in the small icebox of a vacant house trailer. Bowdoin was discovered in an abandoned icebox left in a field about two months before.

In addition to those mentioned, laws to jail or fine persons abandoning airtight containers without first removing doors or latches have been passed by Dallas; Irvington, N. J.; Troy and Buffalo, N. Y.; and by Royal Oak, Pontiac, Flint, Grand Rapids, Adrian, and Hamtramck, Mich.

PRESENTING....
THE NEW
SCOTSMAN
Super Cuber
BY THE MAKERS OF SCOTSMAN Super Flakers

REVOLUTIONARY NEW
"CYCLE-MATIC"
CONTROLLING

SUPER CUBER
MODEL SC-200
(225 lbs. daily)

SUPER CUBER
MODEL SC-100
(110 lbs. daily)

NEW!

- Uniform Full Size Cubes—regardless of air or wate temperature!
- Lowest Operating Cost—2½ qts. of every 3 qts. o water used is made into perfect ice cubes!
- Less Service Cost—No water is reused... no cleanin problems . . . no seasonal adjustments!
- Lowest Installation Cost—requires only ¼ inch water connection and ⅜ inch drain connection!

THE PERFECT CUBE!
CLEAR!
SOLID!
ROUND!

Every cube is full, uniform size.
Solid cube—longer lasting.
Round cube—easier-to-handle.
The finest, all-purpose cube!

SCOTSMAN
AUTOMATIC ICE MACHINES
AMERICA'S MOST COMPLETE LINE!

SUPER FLAKERS SUPER CUBERS

FILTRINE "Taste-Master" PURIFIER

Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO. BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

DISTRICT SALES REPRESENTATIVES

Expanding sales operations have made it possible for the appointment of several more District Sales Representatives in extremely good territories.

Interesting financial return and complete charge of territory available to qualified men who can sell quality refrigeration equipment to Ice Cream, Dairy, Frozen Food Companies, and commercial refrigeration equipment dealers.

ESKIMO KOOLER CORPORATION
916 E. 43rd Street Chicago 15, Illinois

For interview during Cleveland Show contact Eskimo Kooler Corporation Representatives Monday, Tuesday and Wednesday, Hours 8 A.M. to 12 at the Cleveland Hotel.

Boon To Builders

'Pullman Hallway' Cuts Sheet Metal Work To $195 on Residential Air Conditioning Job

By George M. Hanning

CHATTANOOGA, Tenn. — One of the biggest complaints that home builders have about residential air conditioning is that they can't get it for nothing.

They argue that the cost of adding air conditioning to a home drives up the price to where there is too much price for too little house. They are also troubled when the cost of heating and cooling exceeds the 10% of total cost limit set by the Federal Housing Administration, making it difficult for the purchaser to borrow money to buy the home.

No one in the industry has yet devised a means of selling builders residential air conditioning units for nothing. But A. J. L. Moritz, Jr., Tennessee district manager for Chrysler Airtemp, has worked out an idea that permits a builder to install air conditioning in a home for 80 cents to $1 per sq. ft. and both heating and cooling for $1 to $1.20 per sq. ft.

This cost has proved highly acceptable to many local builders who during the past few months have installed Airtemp residential air conditioning units in their model homes and plan to put units in the remaining homes of their projects.

Moritz' idea is what he calls the "pullman hallway." The problem, he discovered when he opened up his residential air conditioning campaign last June, lay in the high cost of sheet metal work.

He found that the sheet metal work needed to air condition the average six-room house in the $15,000 to $25,000 class cost the Chattanooga builder about $600. Working with a local builder on the problem, he noted that in each home there was a central hallway that touched nearly every room and that an air conditioning unit could be installed in a utility closet off the hallway.

Why, not, he asked, fir in the ceiling of the hallway about 14 in. lower than the ceilings in other rooms and make the enclosed space above the ceiling serve as the ductwork?

By making the space airtight, laying a slab of sheet rock on top of the false ceiling joists, and rounding corners, air would flow smoothly and without turbulence.

When this was done, the only sheet metal required would be for the plenum chamber, for standard size collars and registers opening into each room to be conditioned, and for a pipe to supply rooms not touching on the hallway.

The builder thought the idea would work. He contacted his sheet metal contractor. The contractor looked over the plan. He said that he would do the needed sheet metal work in each house for an average price of $195, if the builder promised to give him as much of the work in his project as possible.

The $195 price applied to houses of less than 2,000 sq. ft. The builder and the contractor agreed that where a house differed from the normal requiring either less or more ductwork, this cost would be adjusted between themselves.

The agreement was beneficial to the builder because it lowered his installation costs considerably and gave him a firm price for his sheet metal work.

It benefitted the contractor by giving him a profitable contract. Through the standardization of register grille and collar sizes, he could purchase materials in larger quantities and at better prices. He could also fabricate the needed parts at his convenience and in quantity.

The agreement was highly satisfactory to Moritz because it helped him to overcome the price obstacle. For the first time, it enabled him to tell other builders how much it would cost them for their sheet metal work.

He commented that while each builder had his own contact with sheet metal contractors, what one contractor could do, the others could do also. Besides, this particular sheet metal contractor was prepared to offer the same bargain to other builders if they wanted it.

(Concluded on next page)

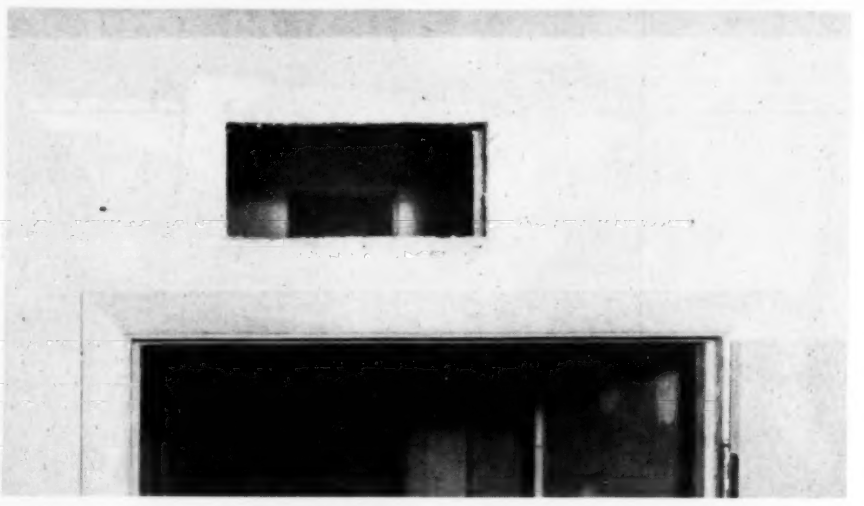
VIEW OF vertical air handling unit installed in closet.

LEFT TO RIGHT: A. J. L. Moritz, Jr., district manager, E. A. Nash, merchandising manager (both of Airtemp), Q. H. Swope, Chattanooga builder, C. B. Osborne, sales manager for Electric Power Board of Chattanooga, shown in the rear of the "Comfort House." Note the 3-hp. air-cooled compressor and condensing unit.

"PULLMAN HALLWAY" theme of air distribution, hall is simply firred down.

ED MORITZ shows depth of fir down section of "Pullman Hallway" in Q. H. Swope's "Comfort House." The "Pullman Hallway" theme is created by a 13½-in. firdown.

SECTIONAL VIEW of "Pullman Hallway" construction. Ordinary ceiling (Sheet Rock or plaster) is sealed. Two by 4-in. supporting beams for supporting the false ceiling (Sheet Rock) are braced between the walls. To the underside of these beams, the false ceiling is attached, sealed, and finished. Pieces of Sheet Rock are layed (loose) on upper side of support beams to prevent eddy currents occurring in the supply air between the support beams.



A HOLE is cut into wall for register opening. A sheet metal collar is inserted in hole and register is attached to same. This simplifies ductwork. Total ductwork, including return and supply grilles in homes of this type of 1,600 sq. ft. to 2,100 sq. ft., costs $195.00 installed by using the "Pullman Hallway."

Prepare Now for the Profitable Jobs...

with the expanded line of

Curtis

AIR CONDITIONING AND REFRIGERATION EQUIPMENT

This complete line of CURTIS equipment assures highest possible efficiency, dependability and quality... at a price that is profitable for you.

Not only will you be equipped to handle any installation but you will be selling equipment that is accepted the world over, and that is proven by 100 years of successful manufacturing experience.

To help you sell more CURTIS Air Conditioning and Refrigeration equipment, it is nationally advertised in *Saturday Evening Post, Time* and *Newsweek*, plus many other national magazines.

For immediate information on how to make your operation more profitable, mail this coupon for details of how you may secure a direct factory franchise:

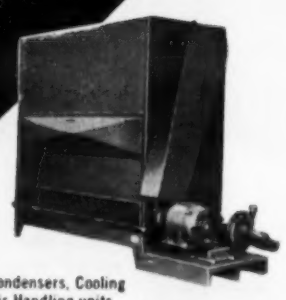
CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis 20, Missouri
I am interested in direct factory franchise. Send complete details.

Company Name.....

Street.....

City.....Zone....State.....

Signed.....



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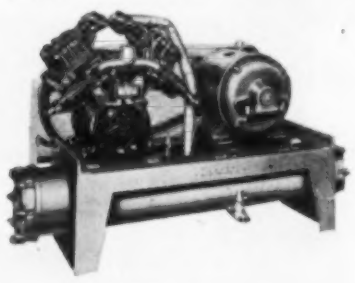

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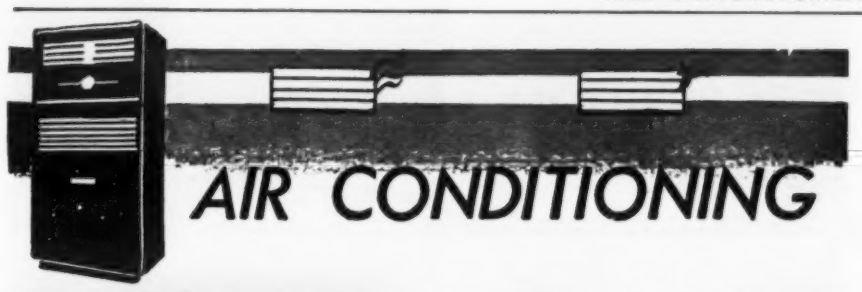

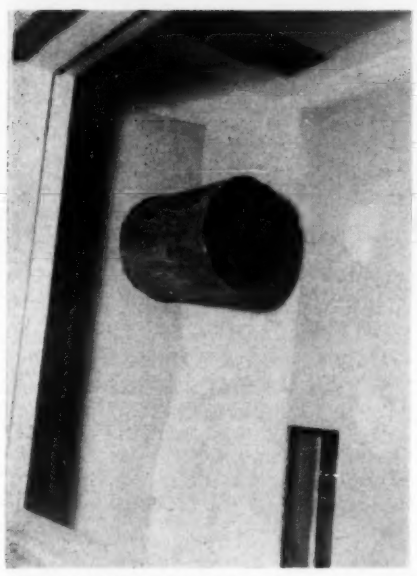

ABOVE: WHEN HALLWAY does not serve all rooms of home, an 8 in. or 10 in. round pipe is brought from plenum of vertical air handling unit, run in attic, is insulated, and supplies air to another firred down closet whereupon air is distributed through the holes, shown, to the connecting rooms. The supply pipe shown still has to be cut back. This type of ductwork is included in the $195 total ductwork charges for the 1,600-2,100 sq. ft. homes.

WITH NO HANDY CLOSET to put it in, this unit was mounted on a platform in the basement stairwell.

RIGHT: ED MORITZ shows the compactness of the air handling section of the air conditioning and heating system in a home built by Creed Maynard, Chattanooga builder. It can be seen that this unit fits in any utility room! An electrical heating coil is installed above the evaporator coil in the unit. Note the duct leading into the floor for perimeter distribution.

Air Flows Equally Well Out of All Registers Like Water Through Holes In Bathtub

(Concluded from preceding page)

"This means," said Moritz, "that the builder, making his own fir down hallway during the construction of the home where it is absorbed in construction costs, can now install Airtemp residential air conditioning for $195 plus the cost of the unit and starting and connecting it."

Moritz added that the builders like the pullman hallway for another reason. The lower hallway ceiling makes adjoining rooms look larger when one steps into them from the hallway. This effect, they say, is very pleasing to prospective buyers.

HALLWAY CAN BE UTILIZED IN EXISTING HOMES

A third advantage is that the pullman hallway can be used with good effect in existing homes where heating is already installed and the owner wants to add air conditionng. If there is no hot air distribution system in the house, a pullman hallway offers a less expensive method of adding cooling.

"When we first started on this pullman hallway idea, we didn't know if it would work or not," Moritz recalled. "We wondered whether the air might not all go out the nearer registers leaving little for rooms farther away, or, on the other hand, whether the air might not by-pass the nearer registers and even siphon air out of the rooms closest to the unit.

"But when one unit was installed, we found that the effect of filling the space above the hallway with air was the same as filling a tub with water. If you punch a series of equal size holes anywhere around the tub, water is going to flow out of each hole in the same volume."

A system of dampers is installed at the unit and at the registers to give individual room control.

The hallway itself is used to supply return air to the unit. Grilles are installed in the lower section of each door leading into the hallway and in the door of the closet containing the air conditioner. Thus a constant circulation of air is assured no matter what doors are open or closed.

Builder G. Harold Swope has already constructed seven homes using the pullman hallway and intends to continue them in the 30 other homes planned for his Brookfield Place project.

In one of his homes, which had been designed and construction started before he was approached with the pullman hallway idea, there was no closet off the hallway to accommodate an air conditioning unit.

Unlike many other houses in the project, this particular house had a basement. The stairway to the basement opened off the hallway. So Swope constructed a platform in the stairwell and had the 3-ton air conditioning unit installed there.

BASEMENT AIR NOT USED FOR RETURN AIR

A second problem arose when he did not want to use the basement air for return air to the unit. So he had a return air plenum constructed which opens into the adjacent bedroom, pulling air from there directly into the air conditioner.

Moritz pointed out that Swope was able to make an installation of this sort because of the construction of the Airtemp air cooled unit. This unit is actually a remote installation, with the cooling coils and blower located in the house and the condensing unit outdoors.

Thus the package inside is comparatively small, measuring only 35 by 19 by 41 in. and of such light weight that it does not require a heavy platform. When placed in a closet, it can be mounted on a raised platform, permitting the family to use the floor of the closet for storage space.

Such remote installation is common with the Airtemp air cooled unit, according to Moritz. With the condensing unit outdoors, none of the heat given off by the condenser and compressor is added to the cooling load, any motor noise is eliminated from the house, and less floor space is required for the air conditioner.

WOMAN DRIES WASHING WITH CONDENSING UNIT

Moritz related that one woman who bought a home with the air cooled air conditioner told him that she thought she wouldn't like having the condensing unit sitting out in the back yard. But she said she soon found that it had an unintended advantage. She could hang her wash in front of the unit and the hot air blowing out would dry the clothes in no time.

Moritz declared that while all local builders have not yet adopted the pullman hallway idea, nine of them have been attracted to the air cooled residential conditioner because of other advantages it offers.

Chief among them is the fact that it does not require the use of water. Water bills in this area have been known to reach staggering proportions for persons who used it carelessly in air conditioning.

These builders have installed or are installing 100 air-cooled Airtemp units so far this year and expect to continue to use them as their projects develop, Moritz said.

One builder is using the 3-ton air conditioner in the hallway closet but is ducting the air through floor coils to G-E. "Air-Wall" registers for perimeter heating and cooling. Heat is produced by electrical coils mounted in the air conditioner.

ONE BUILDER PUTS AIR CONDITIONER IN BASEMENT

Another builder has the air conditioner in the basement with ducts running directly to high wall registers in each room.

A third, who purchased a water-cooled unit before the air-cooled models were introduced, has the complete package air conditioner in a hall closet with ducts running across the attic.

This unit uses a "Water-Saver" mounted behind the house. "Prestone" flows through the water coil and circulates in a closed circuit from the unit to the Water-Saver where it is air cooled. Thus no water is actually expended.

Moritz pointed out that the package unit can be mounted in the closet without any floor supports because the new Airtemp rotary unit is suspension mounted and does not vibrate. This unit uses "Freon-22", which permits the higher head pressures encountered with air-cooled residential air conditioning units.

A fourth builder is installing air-cooled units in a project on Signal Mountain, a famous top residential section, where humidity is more of a problem than heat.

SYSTEM USED OWN BLOWER, BUT FURNACE'S DUCTS

Still another type of installation of an air-cooled unit was made in an existing home. This home was already heated by an electric furnace. But, it was soon discovered, the blower on the electric furnace was not adequate for the air conditioning job.

So the packaged air conditioner was installed next to the furnace in the basement. It employed its own blower but was connected so that it could use the existing furnace ductwork. Basement air was used for condensing air and an additional duct was installed to exhaust the heat from the condensing unit directly outdoors.

While Moritz has taken an active role in helping get his line established among builders in the Chattanooga area, his franchised dealer for residential air conditioning here is the Electric Power Board of Chattanooga, the municipal utility.

Moritz credits C. Bert Osborne, promotion manager for the utility, with doing an outstanding job of stimulating the interest of local builders and the public in residential air conditioning.

Osborne believes that the way to really develop the residential air conditioning market is to go after the speculative builders of new home projects first.

When the public accepts the idea of finding air conditioning in all new homes, then homeowners will have to air condition their houses in order to maintain their value. And that, Osborne believes, is where the real residential air conditionng market lies.

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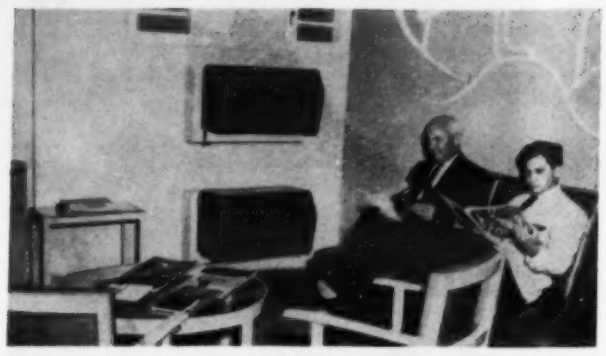
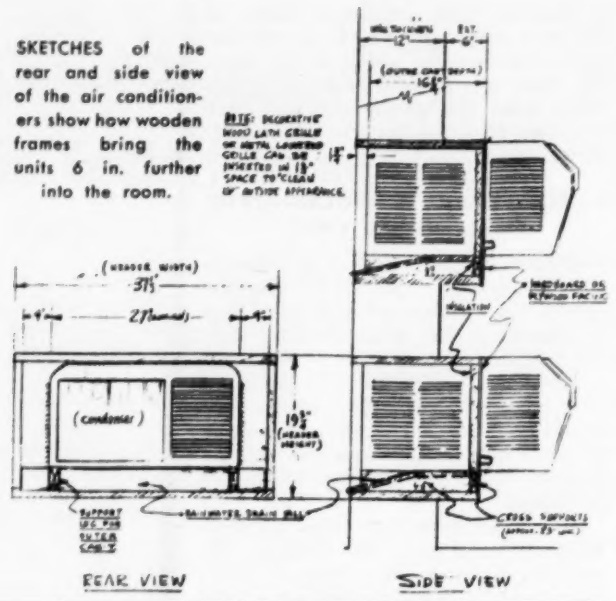


PATIENTS IN the office of Havana, Cuba, oculist Dr. A. Qustin Vas Quez Layva, relax in the cool comfort provided by two ¾ ton room air coolers installed within the building line.

Through-the-Wall Units Meet Comfort, Building Requirements



SKETCHES of the rear and side view of the air conditioners show how wooden frames bring the units 6 in. further into the room.

CHICAGO—An ingenious room air conditioner installation in Havana, Cuba, provides the answer to a widespread problem: How to install a room air conditioner where house rules forbid protrusions past the building line.

The installation was handled by Mitchell Distributors, Inc., Havana representatives for Mitchell Mfg. Co. here.

Presented with the need for two ¾-ton units in an oculist's office containing only one outer wall, engineers placed the air conditioners one under the other in attractive wooden frames.

The result was as neat and unobtrusive as the standard installation in which part of the unit extends beyond the side of the building.

Mitchell Distributors brought the 16¾-in. outer cabinet within the building wall line by constructing 6-in. extensions, made of wood and painted to blend with the interior color scheme, to look like attractive picture frames.

The remaining portion of the outer cabinet is enclosed within the outer wall, with enough space left for a decorative wood or metal louvered grille, which can be added to "clean up" the outside appearance.

Mitchell engineers advised that the following technical points must be considered in this type of installation:

1. A space of 4-in. on each side of the outer cabinet is minimum to allow for the condenser air inlet to the outer cabinet side louvers.

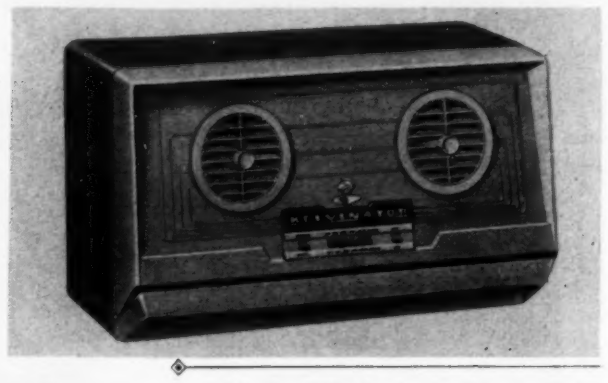
2. The outer cabinet must be exactly level or pitched slightly down toward the outside to permit proper condensate removal.

3. The rainwater drain should be carefully caulked at all joints so that heavy rainfall will not drain toward the room side of the header.

4. The inside surfaces of the header and insulation should be coated with spar varnish or other waterproofing finishes to prevent soaking or warping.

Armand Zucker, director of design and development for Mitchell, said the Havana installation will be used as a model for similar jobs handled by other Mitchell dealers.

"Most methods for bringing the unit further into a room involved complicated braces and stands," Zucker said. "With this new arrangement a dealer can provide a simple installation and still conform to specific building rules," he further indicated.



NEW KELVINATOR room cooler model RAC-84D. Deluxe model has push-button and thermostat control. Unit will retail for $399.95.

Kelvinator Cooler--

(Concluded from Page 1)

1½ hp. Three are deluxe models with pushbutton and thermostat controls. The ¾ deluxe and 1-hp. deluxe also have heaters, which warm up the fresh, filtered air as it enters the room during cold weather operation.

Completely redesigned, the 1954 line presents both new appearance and improvement in mechanical operation, according to William G. Kronauge, sales manager for room air conditioners.

Kronauge said quieter operation is assured in the 1954 models because fan speeds have been slowed, without sacrificing capacity. A new six-blade condenser fan of one-piece design operates without noise or vibration.

Color is a definite factor in room air conditioners, Kronauge said, and the dusty-rose and cocoa-brown tones were selected after intensive study with the assistance of professional color styling experts.

The five models in the Kelvinator line will cool from 300 to 900 sq. ft. of floor space in hot weather. In winter, the units with heaters can be used to preheat cold outside air to room temperature.

Installation cost of the new models is reduced by use of simple mountings easily put in place from inside the room.

Kronauge gave this summary of the five models:

Model RAC-64 has a ½-hp. sealed unit, a rating of 6,000 B.t.u.'s an hour and moisture removal capacity of 1¾ pints an hour. It is 28¼ in. long, 23½ in. wide, and 13 7/16 in. high.

Model RAC-84S is a companion model with the same horsepower and dimensions but without the deluxe features. Its B.t.u. rating is 8,800 and moisture removal capacity is 2½ pints an hour. This model has fresh air and exhaust control.

Model RAC-104D is a 1-hp. unit, also with pushbutton controls, thermostat, and winter heater. With dimensions identical to the RAC-84S and RAC-84D, it has a B.t.u. rating of 10,600 an hour and moisture removal capacity of three pints an hour.

Largest in the line is RAC-154D, a 1½-hp. window-type deluxe model also with pushbutton controls and thermostat. The B.t.u. rating is 17,000 an hour and moisture removal capacity five pints an hour. It is 38⅞ in. long, 30¼ in. wide, and 18½ in. high. Delivery of this model will begin in January.

Suggested cash delivery prices on the five room cooler models are:

RAC-64	$319.95
RAC-84S	369.95
RAC-84D	399.95
RAC-104D	449.95
RAC-154D	(To be announced later)

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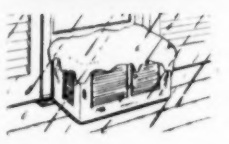

Only the *original* JIFFY COVER of genuine extra-heavy gauge Randflex Plastic has a sewn-in label to signify *the* genuine. Two-color card inserted to help sell *exclusive* features: precision made for tailor-made fit, metal reinforced sides and corners, resists flame, grease, oil, acids, *completely* weatherproof. Compare! Get swatch of Randflex, contact Mr. Mack:

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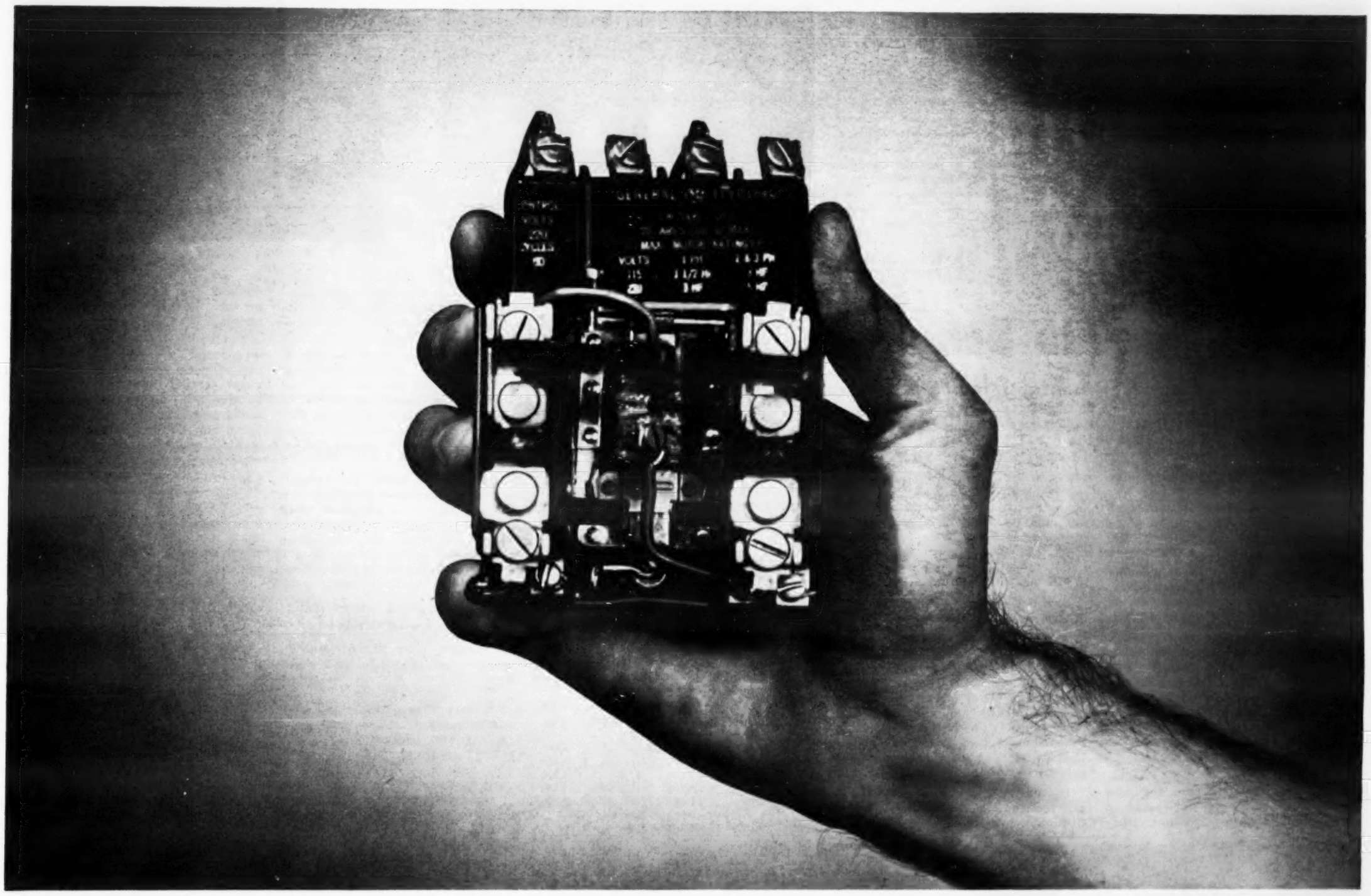

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NEW SMALL-SIZE G-E STARTER

Here's the starter which incorporates the features you've asked for. It's G.E.'s new magnetic starter for the air conditioning and refrigeration industry.

These features make it the ideal control for open-type as well as hermetically-sealed motors:

SMALLER SIZE You'll realize greater space savings with the new G-E starter. The new small size permits greater design flexibility. It's functionally compact—no waste space to clutter up your cooling unit—yet ample wiring space for installation.

ECONOMICAL Streamlined to reduce your costs, the new starter is designed specifically for air conditioning and refrigeration and only the necessary features for these applications are included. Features of standard motor starters which do not apply were eliminated.

BETTER PROTECTION New "quick-tripping" overload relays provide positive protection for your hermetic-type compressor motor. The new relays allow the motor to deliver its maximum power without premature tripping, yet protect against running and stalled conditions.

Standard relays are also available for open-type motors.

ATTRACTIVE APPEARANCE Neat, compact, attractive in appearance, the new starter is designed to complement your modern equipment. The enclosure is finished in a neutral gray, melamine-base enamel. To prevent rust and corrosion, all surfaces are phosphate-treated before painting.

EASIER TO INSTALL Unit is accessible from three sides when enclosure cover is removed. Large, panhead terminal screws are easy to wire.

A guide hole positions the starter unit for mounting to the enclosure. Just hook the unit into the guide hole. Slotted grooves slide easily onto mounting screws. Simply tighten the two mounting screws.

For complete information, contact your nearest General Electric Apparatus Sales Office, or write Section 730-49, General Electric Company, Schenectady, N. Y. Ask for Bulletin GEA-6064.

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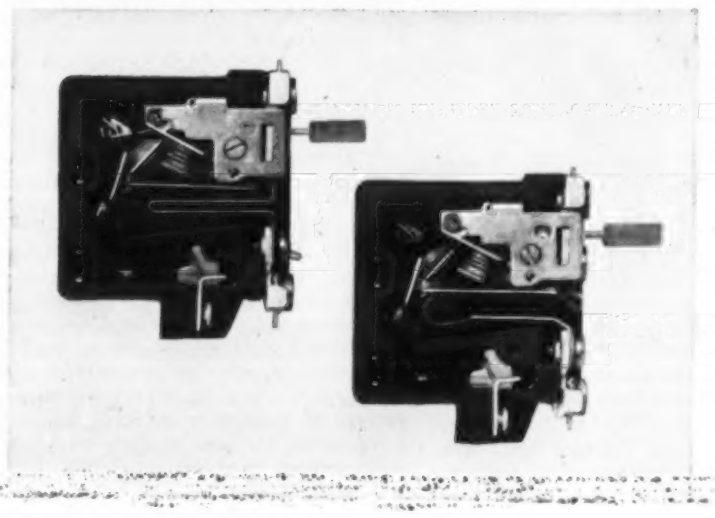
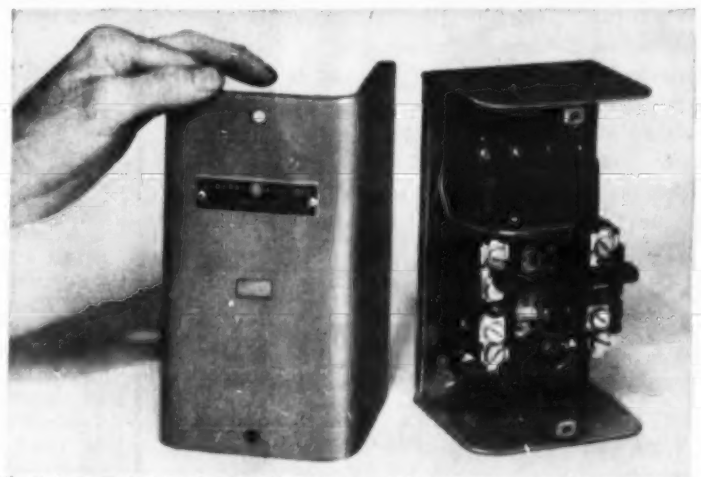
GENERAL ELECTRIC

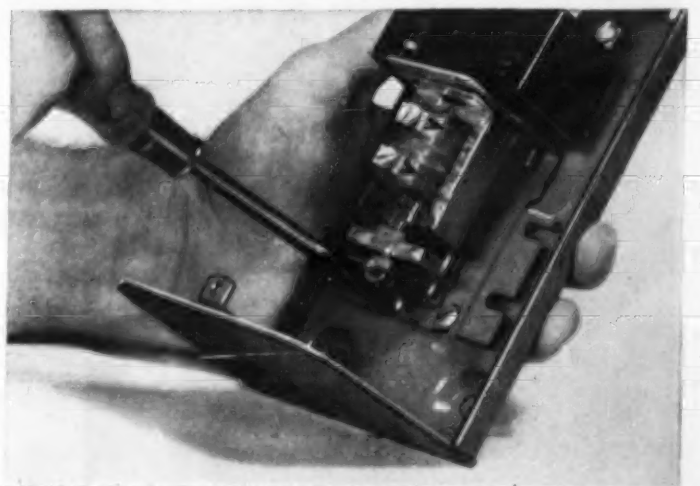
OVERLOAD PROTECTION New quick-tripping and standard overload relay (left) protects hermetic and open-type motors.

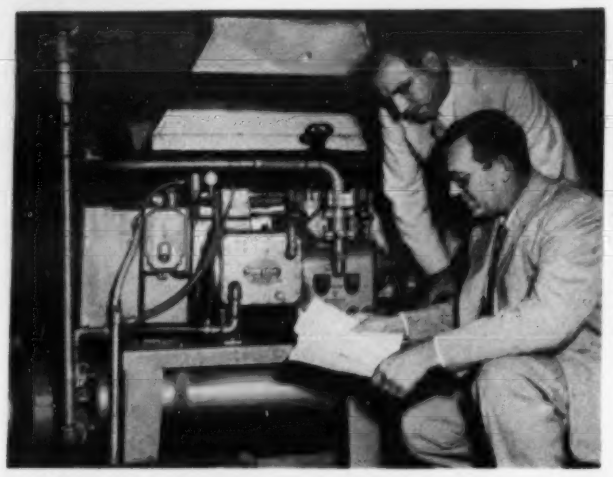


ATTRACTIVE APPEARANCE Streamlined contours . . . enclosure finished in melamine-base, neutral gray enamel.

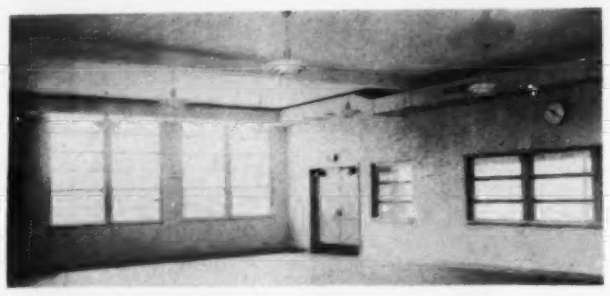


EASY INSTALLATION Ample wiring space, conveniently-located knockouts and mounting holes speed installation.





LEFT: HEAT PUMP data for Acme "Flow-Temp" unit supplying year-round air conditioning to "cafetorium" in Florida school is checked by Guy Hall (kneeling) of Florida Power and Floyd Christian, superintendent of Pinellas county schools.



ABOVE: DUCT SYSTEM is employed in "cafetorium" to provide year-round air conditioning.

RIGHT: RADIANT floor panels which receive hot water from Acme heat pump provide heat.

Heat Pumps In Schools

Six Florida Installations Indicate Favorable Original Costs As Well as Operating Expenses; Safety, Cleanliness Cited

ST. PETERSBURG, Fla. — Six new schools in Pinellas county, Florida, have established an entirely new pattern in the mechanical equipment of commercial buildings by using refrigeration equipment to heat the buildings.

Operating costs of the systems compare favorably with oil heating, and the refrigeration capacity is, of course, available for summer air conditioning.

Advantages of the Acme heat pump systems, now proven over the first year of operation, have been so marked that four new high schools in the community will be similarly equipped. Three of these will each have 265 compressor hp., and the fourth, 165 compressor hp.

Each of the new six school buildings is equipped with the requisite number of 7½-hp. Acme self-contained heat pumps which extract heat from well water pumped from the water table under the ground. Thus the heat obtained is literally "pumped from the ground" and transferred to the building through a network of pipes buried in the floor slab of each room. The water is not wasted, but is returned to the ground via a disposal well.

Capacity of the refrigeration units is available for summer cooling of auditoriums, cafeterias, gymnasiums, and other public rooms.

Schools in Pinellas county now equipped with heat pump systems include the 74th St. elementary school and the 16th St. junior high school in St. Petersburg, as well as elementary schools in Largo, Tarpon Springs, Clearwater, and the Seminole county school.

It was not easy for school officials of Pinellas county to cast aside time honored heating methods and adopt mechanical refrigeration systems as a source of heat. No school board, responsible to the people of the community, wants to make costly mistakes, and the Pinellas county board was no exception.

While the theory of heating by reverse-cycle refrigeration has long been known, and plenty of successful heat pump installations made, school building experience was nonexistent. No similar installation, in buildings of this size and character had ever been attempted.

Opponents of the plan insisted, in absolute good faith, that the proposed heat pumps would cost too much to install, that operating costs would be way out of reason, and that the available water supply might fail. In practice the opposite proved to be true.

Fortunately, the school board chairman was A. Franklin Green, a retired Ford Motor Co. executive with years of mechanical experience. Green quickly sensed the many reasons why heat pump systems would help give Pinellas county the best equipped and operated educational plant in the country—and this was his objective.

The board's architect, Philip F. Kennard, who is also a registered engineer, approached the equipment selection problem with an open mind. Together with Green, the two men assembled all available data on heat pumps, much of it furnished by Allen Dean, Florida representative of Acme Industries, Inc. of Jackson, Mich.

CONSIDERABLE DATA BEING GATHERED

Considerable assistance was also obtained from Guy F. Hall of Florida Power Co., a refrigeration engineer whose interest in heat pumps has been largely responsible for Florida's leading all states in the number of heat pumps installed. Since the new schools have been open, Hall has accumulated extensive test data and operating costs, which will be of great value to schools, and others, in planning future systems of this type.

After many months of investigation, the Pinellas county school board and its advisors selected the "Flow-Temp" heat pump, manufactured by Acme Industries. Seven-and-one-half horsepower units were adopted as standard, because a unit of this size proved to be adequate for one class room wing of the schools. A total of 47 units were installed.

Standardization on a single size meant that all parts are interchangeable, and that the complement of service parts carried could be held to an absolute minimum.

RADIANT FLOOR HEATING USED

Radiant floor heating was also selected by the board, because of the even heat distribution made possible by this method. No floor space was taken up by radiators or convectors, and the problem of drafts and streaked walls were eliminated.

From its inception, the project was coordinated by Carl W. Millsom, general sales manager of Acme Industries, who worked with Kennard, Dean, and Hall to develop the most efficient systems possible for each school.

A test installation of a single unit in an addition to the existing Seminole school quickly proved that 113° F. water, produced by refrigeration, would be adequate to meet heating requirements.

The largest installation, in the 16th St. junior high school, included 17 7½-hp. and one 3-hp. unit—a total of 130.5 hp. Five 7½-ton units are used, for both heating and cooling, producing 45° F. chilled water for use with a duct system. By this method summer air conditionng is provided in the cafeteria and "gymatorium."

Twelve 7½-ton and one 3-ton units were used in classroom wings and the administration building for floor panel heating only. In this instance, however, the piping was designed to handle separate room air handling units for future cooling. In other words, provision was made for air conditioning the entire building at any time in the future, simply by adding the necessary air handling and refrigeration equipment.

In the Largo elementary school there are eight 7½-hp. Flow-Temp units. One provides heating and cooling for the "cafetorium" while the other seven serve classroom wings and the administration building for floor panel heating.

Elementary school at Tarpon Springs employs seven units, one handling the "cafetorium." Five units are similarly used in the Sky Crest school at Clearwater and the 74th St. school in St. Petersburg.

Safety and cleanliness were prime factors considered by the board in the selection of heat pumps. Because there is no fire hazard, danger to life and property is reduced to an absolute minimum.

NO FUEL STORED ON PREMISES

No fuel is stored on the premises so danger of explosion is thereby reduced. Further, no part of the system ever gets hot enough to cause fire or explosion, and the need for insurance of the type normally carried on heating boilers is eliminated. Complete cleanliness is insured by freedom from smoke, odors, and dirt resulting from products of combustion.

Because each heat pump is factory assembled and tested under operating load conditions at the factory, maintenance is negligible and janitor service on the buildings is reduced to a minimum. Redecorating costs, a normal part of school building upkeep, have also been sharply reduced.

FIRST COSTS COMPARED

From the somewhat limited figures available, the cost of the original heat pump installations compares favorably with other modern automatic heating systems. Conservative estimates indicate that a boiler and radiator or convector system of the type now used in most schools would cost about $1 per sq. ft. of building area. The heat pump installations were approximately 91¢ per sq. ft.

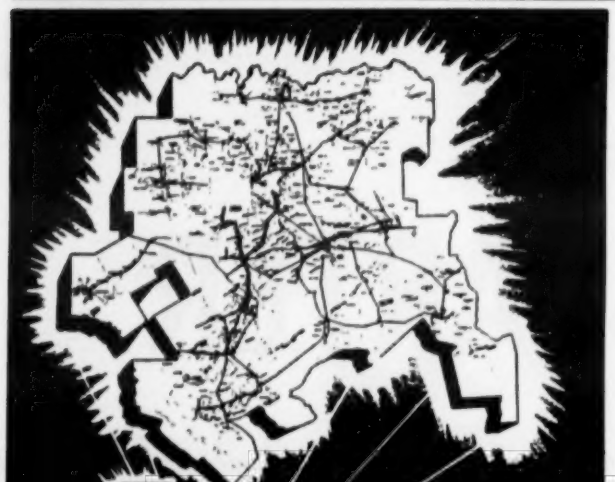
While the 91¢ cost did not include the cost of wells and water pumps, neither did the estimate for conventional heating equipment include the cost of a boiler room, chimney, and other construction needed to accommodate a boiler. It is apparent that a more exact comparison of the two types of systems would favor the heat pump from the standpoint of original cost.

Any comparison of first costs must consider the fact that heat pumps also provide summer air conditioning for portions of the building. Heat pumps serving public rooms, where summer cooling is required are equipped with a special Flow-Temp automatic change-over valve, so the mechanism can be instantly switched from winter to summer service.

How Heat Pump Operating Cost Compares to Total Power Consumption

		Kw Connected	Total Monthly Demand	Total Monthly kw hrs.	Total Monthly Cost	40% of mo. Heat Pump	Ltg. Demand	Actual Kwh for Heat Pump	Kwh for Lighting Only	Ltg. Cost w/Demand & Adjustment	Heat Cost w/Demand & Adjustment	Air Conditioning Time on One 7½ Ton Unit, 102 HRG.
1952	Oct.	60 KW for Lights	45	3,000	$129.08	18	27	1,610	1,390	$ 77.52	$ 51.56	Credit Rating Cost 816 KWH at .014 per KWH
	Nov.	40 KW for Heat Pump	51	3,180	139.24	20	31	1,646	1,534	86.18	53.06	
	Dec.	100 KW Total ...	58	6,180	194.37	23	35	2,601	3,579	121.23	73.14	$11.42
1953	Jan.	.....	65	4,620	177.67	26	39	3,591	1,029	80.90	96.77	
	Feb.	.....	51	5,700	178.93	20	31	2,120	3,580	116.70	62.23	
	Mar.	.....	29	1,740	88.20	12	17	437	1,303	60.29	27.91	
	Apr.	.....	32	1,800	93.24	13	19	540	1,260	61.88	31.36	
										$604.70	$396.03 less $11.42 = $384.61	

Note: Kilowatt-hour consumption on heat pump includes all testing at beginning of school year.



THE TEXAS BRIGHT SPOT IS THE CENTER OF MORE THAN HALF OF THE TOTAL U. S. MARKET FOR UNIT AIR CONDITIONERS

Congratulations to the Air Conditioning Industry on your BEST sales year from your

#1 MARKET!

After extensive research our Industrial Development Department has completed a study of unit air conditioning sales and distribution throughout the U. S. Hailed as one of the most informative reports of its kind ever compiled, it indicates that a manufacturer can serve over half of his total market quicker, easier and more economically from a plant located in the Texas "Bright Spot" than from any other region in the U. S. See our industrial consultant at the Show, at the Hotel Cleveland, or write our Industrial Development Department for facts concerning the economic advantages that await the Texas manufacturers of Air Conditioning Equipment.

TEXAS POWER & LIGHT COMPANY
DALLAS, TEXAS

Operating Cost Study Shows Heat Pumps Compare Favorably with Other Methods

Fuel	Rate Per Unit	B.t.u. Per Penny	Probable Efficiency	Net Useful B.t.u. Per Penny
Coal	$20.00 ton	13,000	60%	7,800
Oil	.14 gal.	10,350	75%	7,750
Gas	.85 M	11,750	75%	8,800
Electric	.02 kwh.	1,706	100%	1,706
Heat Pump 70° Well to Radiant	.02 kwh.	8,850	90%	7,970
50° Well to Radiant	.02 kwh.	7,450	90%	6,700

Data Compiled by Guy F. Hall, Florida Power Co.

School Heat Pump Installations--

(Concluded from preceding page)

While the individual heat pump, sized for Florida heating requirements, does not have enough capacity to cool the same area in summer, provision can be made to combine the capacity of several units to cool auditoriums, the library, and offices in the building. Where complete summer cooling is required in the entire area heated, additional equipment may be added for this purpose.

On the basis of both theoretical estimates and hard practical experience, operating costs of the heat pumps in the Florida schools, with an electric rate of 2¢ per kilowatt hour, compares with automatic heating equipment burning fuel oil at 14¢ per gallon.

ANALYSIS OF FIRST YEAR COSTS FOR ONE HEAT PUMP IN 74TH STREET ELEMENTARY SCHOOL

	Degree Days	Kwh. Used	Cost
October	42	194.6	$ 8.37
November	24	351.7	15.47
December	107	939	29.11
January	112	947	38.61
February	50	759.6	23.55
March	10	139	6.95
April	..	55.58	2.78
TOTALS	345	3,508	$127.62

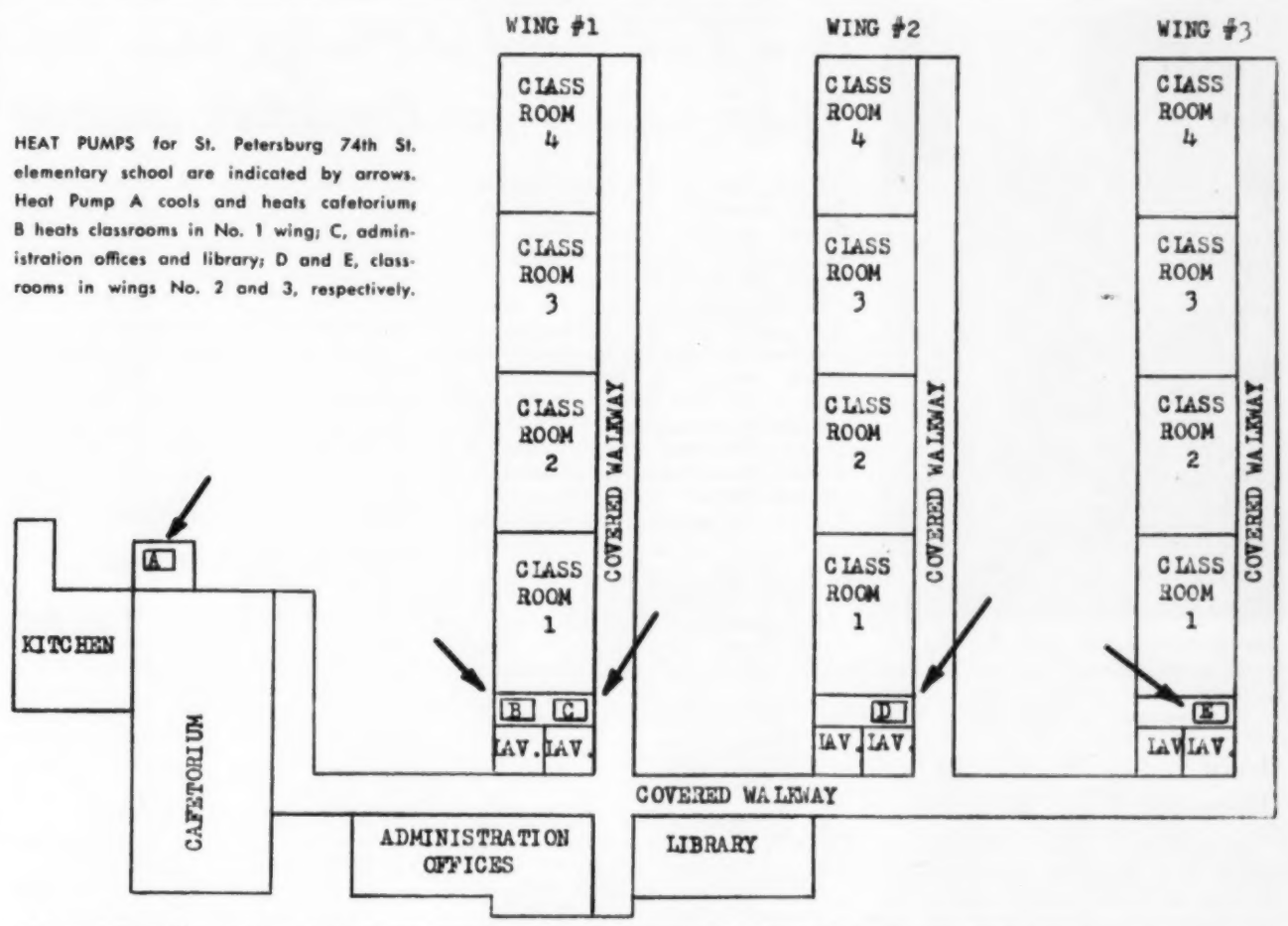
Costs compiled by Guy F. Hall, Florida Power Co.

HEAT PUMP APPROXIMATELY 380% EFFICIENT

This does not seem possible until we understand that a heat pump is approximately 380% efficient. Virtually all of the heat created by the operation of the refrigeration mechanism, known as the heat of compression, is absorbed into the system plus the heat obtained from the water flowing from the ground. There are no combustion losses when fuel is burned and no stack losses up the chimney. All of the heat energy that is obtained goes into the building.

The cost of heating the 74th St. elementary school with heat pumps was slightly over 2¢ per sq. ft. for the season. The Gulf Beach elementary school, of similar construction and using the most modern type of oil-fired heating equipment, cost slightly under 2¢ per sq. ft. for fuel, it was pointed out.

At the 74th St. school, however, considerable power was expended for testing at the beginning of the season. Under conditions encountered in Florida, it is safe to assume that heat pump operations, with all their attendant advantages, cost no more than other heating methods in common use.



HEAT PUMPS for St. Petersburg 74th St. elementary school are indicated by arrows. Heat Pump A cools and heats cafetorium; B heats classrooms in No. 1 wing; C, administration offices and library; D and E, classrooms in wings No. 2 and 3, respectively.

While industry spokesmen have recently predicted that heat pumps will soon be installed at the rate of 200,000 units per year, Millsom is even more optimistic.

"From our experience in Florida," Millsom reports, "we believe that a high proportion of all buildings requiring air conditioning will eventually use their refrigeration capacity for winter heating, and buildings like schools, which only require partial air conditioning, may be handled in the same manner. This situation opens a market that is almost unlimited."

PA® 400

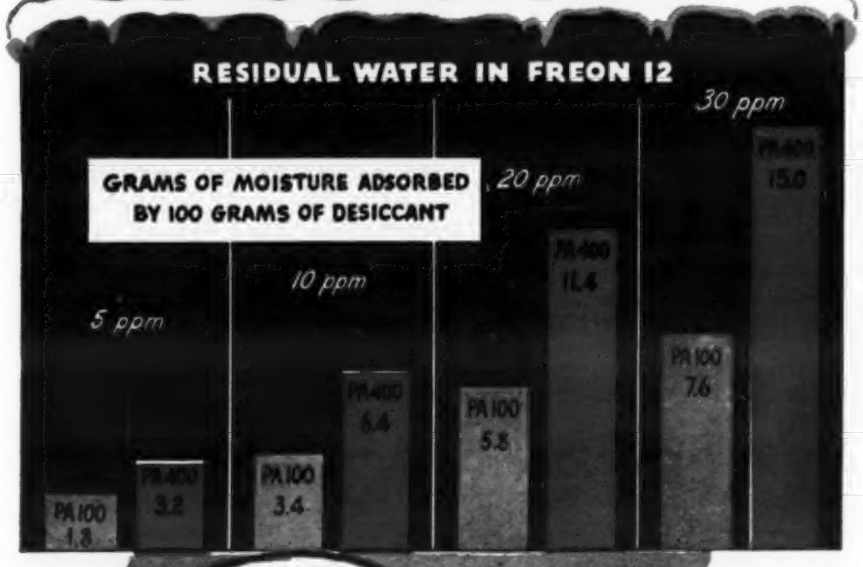
DAVISON'S NEW Refrigeration Desiccant

WITH GREATER MOISTURE ADSORPTION CAPACITY

Up to 98% increase in moisture capacity

The Davison Chemical Corporation has long been a leading producer of refrigeration desiccants and the manufacturer of PA 100 — the top desiccant in the field. Now, after many years of research, they have produced PA 400 — a refrigeration desiccant with a greatly increased adsorption capacity.

Tests run on the moisture adsorption capacity of PA 400 in Freon-12 in comparison with Davison's PA 100 show up to 98% increase in capacity.



SEE YOUR JOBBER TODAY OR WRITE..

PA 400

Progress Through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 3, Maryland

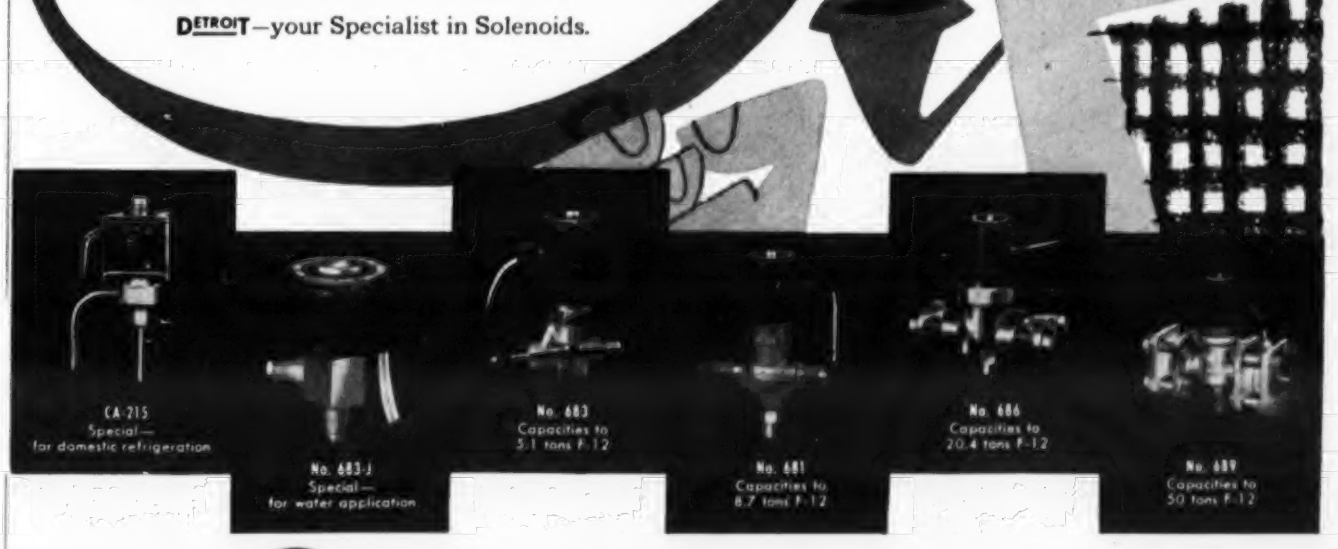
Producers of: Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO® Granulated Fertilizers.

Have a Solenoid Problem?

LET US HELP YOU SOLVE IT!

Visit Us In BOOTH No. 300 at the ALL-INDUSTRY EXPOSITION

If you need a Solenoid Valve for air, water, steam or refrigerants in capacities to 50 tons Freon-12, call on DETROIT. Chances are, you'll find an immediate solution with a standard DETROIT model. If not, for some special applications DETROIT will design a valve to meet your requirements. Either way, you'll find it pays to call on DETROIT—your Specialist in Solenoids.



DETROIT Controls CORPORATION

ESTABLISHED AS DETROIT LUBRICATOR COMPANY IN 1877

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DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary Corporation

Canadian Representatives in Montreal, Toronto, Winnipeg—Railway and Engineering Specialties, Ltd.

AUTOMATIC CONTROLS for REFRIGERATION

AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

Serving home and industry

AMERICAN-STANDARD • AMERICAN RADIATOR • CHURCHILL CAST IRON TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • TONAWANDA IRON

"SWING-OUT" PLASTIC MEAT TRAY is a new feature on top models in the 1954 Hotpoint household electric refrigerator line, recently introduced to distributors.

Death Takes W. P. Akins, Officer of Cope Electric

ALLIANCE, Ohio — William P. Akins, vice president and secretary of Cope Electric Co., died recently in City Hospital at the age of 57. He had been in ill health for some time.

Akins had served as vice president and secretary of the company—a distributor of electrical supplies—an appliance dealer and an electrical contractor for 25 years. He joined the company in 1919 at the request of Frank H. Ruth, now president and treasurer of the firm.

New York Board of Health May Ban Water-Cooled Gas-Flame Refrigerators

NEW YORK CITY—The Board of Health is scheduled to take action at its next regular meeting Nov. 19 on a proposal to ban use of all water-cooled gas-flame refrigerators in the city after Jan. 1.

A public hearing on the proposal was held recently by the board after carbon monoxide fumes escaping from an old refrigerator of this type reportedly caused the death of a New Yorker. This was the 14th death attributed to a water-cooled gas-flame refrigerator.

After the hearing, the board postponed action on the proposal until its next meeting to allow more time for study of the problem.

Meanwhile, a force of some 200 Health Dept. inspectors were checking water-cooled gas refrigerators throughout the city. As of a recent date, the department reported that 999 refrigerators out of 3,582 examined had been found dangerously defective and sealed.

In a related action, the rent office for southern Manhattan directed landlords to replace refrigerators condemned by Health Dept. inspectors or suffer a penalty of a $3 reduction in the rent they may collect.

Landlords were given a week in which to install a refrigerator of another type in good operating condition or to put in a new refrigerator with the tenant's consent. In the first case, the rent remains the same; in the second, the landlord could apply for a rent increase.

Of the first 214 refrigerators checked in the city-wide drive, 68 were sealed as dangerously defective, 56 had less serious defects that did not warrant condemnation, and 90 were found in satisfactory condition, according to the Health Dept.

There are an estimated 30,000 to 40,000 water-cooled gas-flame refrigerators in the city. The inspection campaign is expected to be completed by the end of the year.

Justis Reviews 'ABC's' of Profitable Retail Business

SAN ANTONIO, Texas — "Easy money isn't found in the appliance business, but the money is there if we want to work for it."

So stated Delaware appliance dealer Robert Justis in listing "some simple rules that we have to follow, that might be called the ABC's of profitable appliance business:

"A. Sell everything you buy—and don't take too long doing it!

"B. Sell at a price higher than your *total* cost and expenses.

"C. Spend less than your profits.

"D. Know how your money is invested, what it's doing, and when it is coming back bringing more."

Justis, a director of the National Appliance & Radio-TV Dealers Association, spoke at the one-day clinic held here recently by the Texas Appliance Dealers Association.

HOUSEHOLD REFRIGERATION

Muntz Store Does 18% Of Business on Sunday, Officials Tell Court

DETROIT — Muntz TV's Detroit store does 18% of its business on Sunday, Muntz officials testified in Wayne County Circuit Court here recently.

James Foley, store manager, told the court that the store's 32 salesmen closed 190 sales on five Sundays in September and October. For the 25 outside salesmen, Sunday is the best day of the week because they can find the whole family at home, he added.

Foley was one of the witnesses called in a case Muntz has brought against the city of Detroit, contesting a recently passed city ordinance that prohibits stores selling appliances, radio, television, and furniture from remaining open on Sunday.

Foley further testified that his outside salesmen earn an average of $8,000 to $9,000 per year. The seven floor salesmen earn $12,000 to $16,000 per year, he declared.

Arthur Schurgin, national representative for the advertising agency handling the Muntz TV account, testified that Muntz has approximately 40 stores around the country and only two are closed on Sunday. These are in Baltimore and Milwaukee. The Milwaukee operation ranks about 30th in the organization despite the size of the market there, he said.

He told the court that Muntz had opened a store in Charlotte, N. C. which also remained closed on Sunday. He said that this operation proved to be unprofitable and it was closed. Analysis of the failure indicated that Muntz was unable to get the big week-end push there that has proved so essential to its type of operation, he testified.

Muntz contends that the ordinance, which is now under temporary injunction, would irreparably damage its business and cause it to lay off employes and curtail operations.

Muntz is being supported by the Modern Rest Bedding Co.

The Sunday closing ordinance is supported by the local Retail Merchants Association.

Servel To Show '54 Line At December Conference

EVANSVILLE, Ind.—Servel's 1954 line of appliances will be revealed to the company's distributors at the annual national sales conference in Chicago on Dec. 14, 15, and 16, according to James F. Donnelly, vice president in charge of sales.

Headquarters for the sales conference will be at the Conrad Hilton hotel. Presentation of the new products will be made from the stage of the Eighth Street Theater, which adjoins the hotel. The exhibition hall in the lower level of the hotel will be used for a complete display of 1954 appliances.

Servel's appliance line for next year will include gas and electric household refrigerators headed by the "Automatic Ice-Maker" models, portable electric refrigerettes, electric home freezers, window-type room air conditioners, and gas and electric water heaters.

Details of new products and new features will not be revealed in advance of the sales conference.

Kelvinator Ads Promote Appliances for Xmas Gifts

DETROIT—Kelvinator's fall sales campaign will use powerful national advertising to stimulate end-of-the-year buying of major appliances as holiday gifts for the whole family.

"This Christmas give Kelvinator—the gift that gives for years" is the theme of five full-page, full-color advertisements in *Life* magazine spearheading the campaign. Ads in key city newspapers and other magazines also will be used.

The first *Life* ad, featuring the electric clothes dryer, was scheduled for Oct. 26. Next was a refrigerator ad on Nov. 2, showing a deluxe two-door self-defrosting refrigerator and freezer combination. Electric ranges and automatic washers will be featured Nov. 9 and 23.

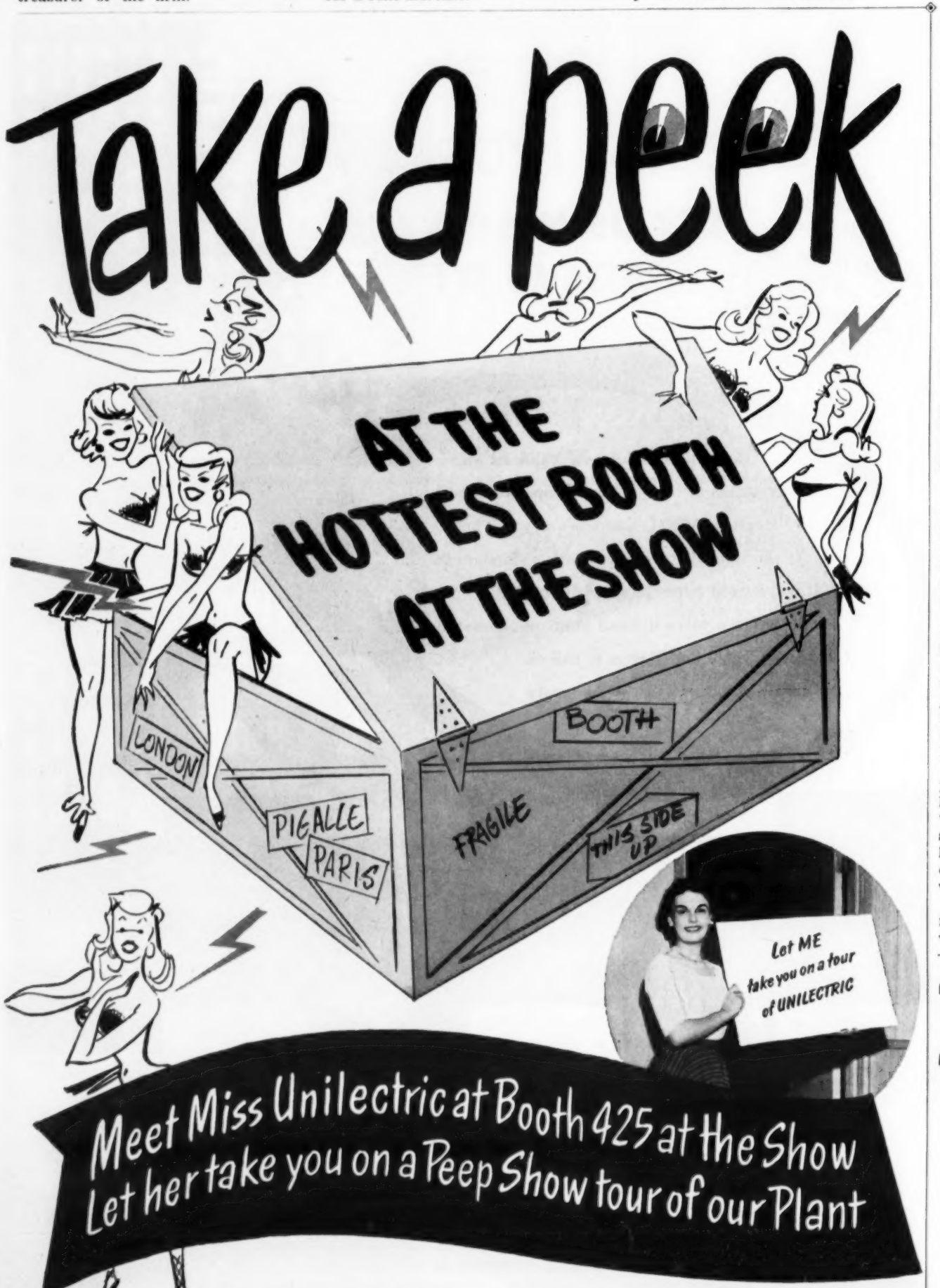
The final in the series on Nov. 30 is for all products, including refrigerators, ranges, washers, dryers, Kelvinator cabinets and sinks, room air conditioners, and electric water heaters.

"A Letter to Four Husbands" is the central theme, each homemaker suggesting the appliance she'd most like to receive for Christmas.

Servel Names Wind Corp. St. Louis Area Distributor

EVANSVILLE, Ind.—L. W. Wind Corp. of Clayton, Mo. has been named as the Servel air conditioning distributor for the St. Louis market area, according to John A. Gilbreath, assistant vice president in charge of air conditioning for Servel, Inc.

Wind Corp.'s territory includes 51 counties in the eastern half of Missouri and four counties along the Mississippi River in Illinois. Officers are Milton A. Dewes, president; L. W. Wind, vice president, and Les Savage, air conditioning manager.


Take a peek
AT THE HOTTEST BOOTH AT THE SHOW
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FRAGILE
THIS SIDE UP
Let ME take you on a tour of UNILECTRIC
Meet Miss Unilectric at Booth 425 at the Show
Let her take you on a Peep Show tour of our Plant
UNITED MANUFACTURING & SERVICE COMPANY
411 South 6th Street
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WALL WIRE PRODUCTS COMPANY

A FOREMOST NAME IN THE MANUFACTURE OF DIVERSIFIED WIRE PRODUCTS OF SUPERIOR QUALITY

STANDARD AND LIGHT WEIGHT SHELVES OF ELECTRO-POLISHED SOLID STAINLESS STEEL

REFRIGERATOR SHELVES WITH CHROME PLATE, ZINC PLATE, PRO SEAL, TIN, OR PORCELIZED FINISH

WIRE GRILLES · DISPLAY FIXTURES · GUARDS · BASKETS OF ALL TYPES FOR ALL PURPOSES STEEL STAMPINGS · MISCELLANEOUS FORMED AND WELDED WIRE ASSEMBLIES ARC WELDED ASSEMBLIES

WALL WIRE PRODUCTS CO.
PLYMOUTH, MICHIGAN

DEAN COLD PLATES

COLD PLATES FOR: Ice Cream Cabinets, Soda Fountains, Farm Milk Coolers, Farm Freeze Cabinets, Window Displays, Food Counters, Sub-Zero Applications for Industrial chilling.

DEAN PRODUCTS, INC. 1042 DEAN STREET, BROOKLYN 16, N.Y. STerling 9-5400

Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

A Method of Correction For Very Light Loads (2)

Neither of the two methods described previously is capable of varying the compressor capacity in exactly the same proportion as load variation. With them the compressor capacity is adjusted in steps.

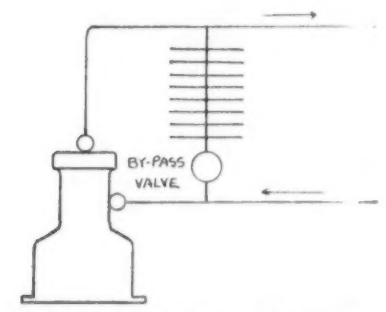
With the suction valve unloader method, there may be enough steps that the capacity can be varied closely enough to give acceptable temperature and humidity control under varying load. Most compressors are so constructed that the by-pass method is capable of unloading only one-half of the compressor, so capacity is either full of one-half.

There are two chief advantages to these methods: 1. Power used is reduced in about the same proportion as the capacity obtained. 2. They are comparatively simple to install and to control.

The author has had two instances come to his attention within recent months in which neither of these methods was adequate, so another method had to be used. This method, which may be called an "Automatic Unloader" was also described in the above-mentioned article and in Manual J-1, and piping and wiring diagrams were given, but this method will be briefly reviewed.

AUTOMATIC UNLOADER METHOD

The automatic unloader method is rather simple, and consists merely of



AUTOMATIC UNLOADER METHOD which may be applied to any type compressor and which is a variable capacity unloader, rather than unloading in steps. By-pass valve may be a constant outlet pressure type valve, or a solenoid valve controlled by a thermostat or by a low pressure control connected into the suction line.

a by-pass from the main hot-gas discharge line of the compressor, to the main suction line. A constant pressure (constant outlet pressure) valve is installed in this by-pass line. This valve is set to maintain an outlet pressure corresponding to the temperature at which it is desired to maintain the evaporator.

If the load drops off, the suction pressure will tend to fall, but the constant pressure valve opens enough to let enough high pressure gas through to the suction line to maintain the desired suction pressure.

In other words, the automatic unloader method by-passes the entire compressor instead of only two cylinders. But it by-passes only enough to keep the suction pressure up to normal.

With the system operating under full load, the suction pressure stays high, so the unloader valve stays closed and the system operates normally and is unaffected by the by-pass.

MAINTAINS CLOSE CONTROL

This method can maintain much closer control, for it maintains a practically constant suction pressure, and consequently a practically constant evaporator temperature regardless of load variation.

Moreover the automatic unloader operates from full load down to almost no load, so can be used for badly unbalanced systems.

It has two disadvantages:

1. There is very little, if any, reduction in power with reduction in load. This may not be too serious however, for presumably the extremely low load condition will not occur often. Moreover, power savings are often less important than getting the system to operate properly and maintain the desired close control of temperature and/or humidity, even on low loads.

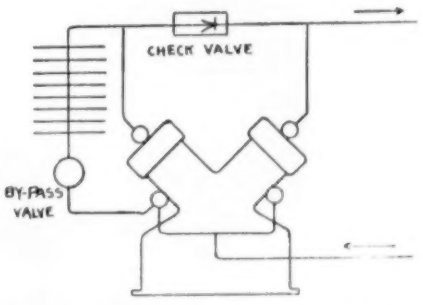
2. The discharge gas that is by-passed is very hot, and if it is not cooled before it is put into the suction line and thence into the compressor, the compressor may badly overheat and damage valves, bearings, seal, and other parts, and carbonize or otherwise damage the oil. Also, the automatic by-pass valve itself may be damaged.

A small finned coil may be put in the by-pass line between the hot-gas discharge line from the compressor and the automatic by-pass valve. On some installations, a water-cooled coil may be preferable. The by-passed gas should be cooled to 65° or lower before entering the suction line and the compressor. (This is also true in the case of by-passing two cylinders of a four cylinder compressor. The hot gas must be cooled before being put into the suction line and the compressor.)

SOLENOID AND THERMOSTAT

There was formerly some difficulty in locating an automatic by-pass valve large enough for some of the larger installations but they are now obtainable. The size of the by-pass line will vary according to how great a range of capacity reduction the by-pass will have to handle.

This method may not be resorted to



CYLINDER BY-PASS METHOD in which two cylinders of a four-cylinder compressor are by-passed to reduce its capacity by approximately one half. By-pass valve is usually a solenoid valve controlled by a thermostat or low-pressure control.

except where capacity reduction of greater than 50% must be obtained, so the by-pass line will probably have to be from one-half to three-quarters the size of the main hot-gas discharge line.

Instead of a constant outlet pressure valve, a solenoid valve can be used in the by-pass line, actuated by a close differential, reverse acting pressure control (close on falling pressure, open on rising pressure.) This reverse acting pressure control should, of course, be connected into the suction line. Thus a fairly constant suction pressure will be maintained.

In some instances, a thermostat can be used to advantage instead of a reverse acting pressure control. The bulb of the thermostat can be connected to the evaporator, or in water systems, directly into the water chiller. The thermostat should be the "heating" type to close on falling temperature and open on rising temperature. There can be many variations of the use and type of control of the by-pass.

One of the cases in which the automatic by-pass system could be used to advantage was an army air conditioning installation. The building was used for purposes that required that it be kept in operation regardless of outside conditions. Therefore it was provided with equipment that made it possible to close the building tightly, so no outside air would get in.

Had this not been true it would have been possible to increase the amount of make-up air to increase the load, but in this case there was no make-up air.

It was powered by a four-cylinder compressor that was provided with unloaders of the suction valve lifter type. Sometimes the system operated at full capacity on all four cylinders, but under certain circumstances the load was so low that the cooling coil frosted even with only one cylinder of the four cylinder compressor in operation.

Putting an automatic by-pass on this cylinder gave further reduction of a capacity, to match the extremely low load that under certain special circumstances was encountered.

Another case involved a building in which at times most of the "zones" were off, leaving the large system operating on what was probably about 20% of full load. An automatic by-pass appeared to be the best solution for this system.

One of the systems of automobile air conditioning described in the Sept. 8, 15, and 22 issues of this column uses an automatic by-pass system, employing a solenoid valve in the by-pass, actuated by a thermostat reflecting air temperature.

The automatic by-pass system is not to be employed indiscriminately. Other systems may be more economical and afford sufficiently close control. However, there are some installations on which it can be used to advantage.

LEAKS??

Just try

LEAK-TEC!

It detects leaks in any gas system in a few seconds. Equipment that must be gastight can be tested with LEAK-TEC and compressed air . . . either on the assembly line or after installation.

POCKET UNIT: Flexible 4-ounce bottle (with 1 quart refill solution) $3.00.

Absolute money back guarantee.

Leaflet LT-ACR on request.

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117 LIBERTY ST.
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thinking about controls?

If you're thinking about refrigeration controls . . . visit Ranco headquarters, Booth 619, at the Exposition. Inspect the latest Ranco controls and have a visit with men from the factory . . . You'll get real "profit" ideas when you know more about Ranco controls.

Plan to see us there!

RANCO CONTROLS

Ranco Inc.
COLUMBUS 1, OHIO

see Ranco at the show...booth 619

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

Large Curvette

by KRAMER

HINGED PAN

quick and easy access

Praised for years by installation and service men.

Built-in Heat Exchanger

NO RUSTING — polished aluminum casing

SMALL CURVETTE
800 to 5,600 BTU's Per Hour

COOLMASTER
2,500 to 60,000 BTU's Per Hour

RADIAL
2,500 to 23,000 BTU's Per Hour

KAY-TEE
2,500 to 12,000 BTU's Per Hour

WRITE NOW FOR BULLETIN C-192-7

KRAMER TRENTON CO. • Trenton 5, N.J.

Air Conditioning Sales

Detroit '53 Installations May Establish New Record Judging by Volume for First 6 Months

DETROIT—Sales of air conditioning in Detroit may set a new record this year.

Total installations in the first six months are well above totals for the same period in all previous years, it is revealed in a survey made by AIR CONDITIONING & REFRIGERATION NEWS of permits issued by the city's Department of Buildings and Safety Engineering.

In the first six months permits were issued for 502 units. This compares with 252 units in the first half of 1952; 340 in the 1951 period, and 445 in the same period of 1950, best previous year.

(The term "units" as used here means both package air conditioners and condensing units installed for remote or central systems. Window and console-type room air conditioners are not included in these totals.

(The installations also are limited to those installed within the city limits of Detroit and do not include those in the adjoining suburbs. It is believed, however, that these figures represent between half and two-thirds of the total in the metropolitan area.)

Although the figures for 1953 are broken down for the first six months only, there is every indication that air conditioning is being sold and installed here at the fastest pace in history. It is expected, therefore, that the year's total will exceed the previous record of 883 which was chalked up in 1950.

Sales in 1951 and 1952 were off somewhat from the 1950 peak, totaling 684 and 676, respectively.

Included in the NEWS study of the Detroit permits are tabulations which show the installations by month, by size, by make, by contractor, and also by type of establishment where air conditioning was installed.

Total horsepower of the 1953 installations thus far is also setting a record. In the first six months these represent 7,034½ hp., well over the 12-month totals of 5,411 hp. in 1952 and 6,146½ hp. in 1951.

Sales by Months for Past 4 Years

Month	1950	1951	1952	1953
January	26	11	17	28
February	33	19	30	42
March	42	54	43	61
April	53	43	43	76
May	104	120	48	171
June	187	93	71	124
(6 Months)	445	340	252	502
July	174	103	122	....
August	111	70	111	..
September	42	66	57	....
October	52	40	47	....
November	25	32	64	....
December	34	33	23	....
Total	883	684	676	....

The full-year total for 1950 was 8,373 hp.

A look at the table showing sales by month for the past four years indicates that even the figures for January gave promise of a boom this year. In that month 228 units were installed, compared with 17 in the same month of 1952, 11 in 1951, and 26 in 1950.

Each of the first six months this year ran well ahead of corresponding months of the preceding two years. The total of 124 for June in 1953 was short of the 187 chalked up in June of 1950, however.

Largest of the first six months in the current year was May when 171 units were installed. This was way ahead of any previous May.

The tabulation of sales by size in the first six months this year shows that as usual more 5-hp. units were installed than any other size. There were 196 units of this size. Next largest number was the 7½-hp. unit with 116 installaitons.

Close behind, however, was the 3-hp. size with 105 installations in the first six months.

Among the other sizes, the tabulation shows installation of 18 15-hp. units, 16 10's, and 13 2's.

There were significant numbers of larger units installed in the first six months this year. For example, the permit studies reveal eight 40-hp. units, nine 50's, two 75's, and two 100's. There were also six units larger than 100 hp.: a 125, 300, 400, 450, and two 900-hp. centrifugals.

The latter two machines were for air conditioning a hospital.

Another tabulation of the air conditioning installations in Detroit for the first six months this year compares the sales by make, the make merely being identified by letters of the alphabet.

The makes are listed in order of number of units, also showing the total horsepower for each make. As can be seen, horsepower does not always fall in the same rank as number of units.

Make A with the most number of units, 101, has a total horsepower of 881½. Greatest total of horsepower, however, is credited to B with 3,473 although B ranked second in number of units installed with 78.

In third place is Make C with 58 units and 337½ hp.; D is fourth with 53 units and 229½ hp.; E is fifth with 48 units and 340½ hp.

Just as there is considerable variation in total horsepower of the two leading makes, A and B, similar differences are noted in other makes.

Sales by Make In 1st 6 Months

Make	No.	Hp.
A	101	881½
B	78	3,473
C	58	337½
D	53	229½
E	48	340½
F	45	215½
G	29	168
H	25	126
I	12	218
J	10	460
K	10	141
L	7	35
M	6	38
N	5	20
O	3	275
P	3	13
Q	3	12
R	2	10½
S	2	10
T	1	25
U	1	1
Total	502	7,034½

How 53 Contractors Divided Installations

Contractor	No. Units	Hp.
1	65	457
2	52	461
3	50	360
4	45	242½
5	43	224
6	30	184½
7	21	199½
8	18	94½
9	15	93½
10	14	82½
11	13	189½
12	10	472
13	9	138
14	9	125
15	9	57½
16	8	55½
17	8	50
18	8	43½
19	6	117½
20	6	39
21	5	2,950
22	5	87½
23	5	47½
24	3	18
25	3	17½
26	3	17½
27	3	15
28	3	15
29	2	20
30	2	15
31	2	10½
32	2	10
33	2	10
34	2	8
35	2	8
36	2	6
37	1	10
38	1	10
39	1	7½
40	1	7½
41	1	7½
42	1	5
43	1	5
44	1	5
45	1	5
46	1	5
47	1	5
48	1	5
49	1	5
50	1	3
51	1	3
52	1	2
53	1	2
Total	502	7,034½

Sales by Size In 1st 6 Months

Size (Hp.)	No.	Total Hp.
1	2	2
½	1	1½
2	13	26
3	105	315
5	196	980
7½	116	870
10	16	160
15	18	270
20	1	20
25	3	75
30	4	120
40	8	320
50	9	450
75	2	150
100	2	200
125	1	125
300	1	300
400	1	400
450	1	450
900	2	1,800
Total	502	7,034½

For example, J and K each are represented by 10 makes apiece. However, J's installations totaled 460 hp. while K's added up to 141 hp.

Makes O, P, and Q each have three units to their credit, but O has 275 hp. while P and Q have 13 and 12 hp., respectively.

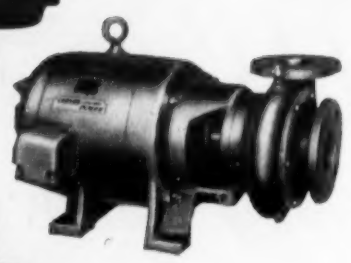
Fourth table analyzing the Detroit air conditioning installations in the first six months compares the number of units and total horsepower for each contractor. The 502 units were installed by 53 contractors, an average of nearly 10 apiece.

At the top of the list is contractor No. 1 who installed 65 units in the six-month period for a total of 457 hp. The second contractor

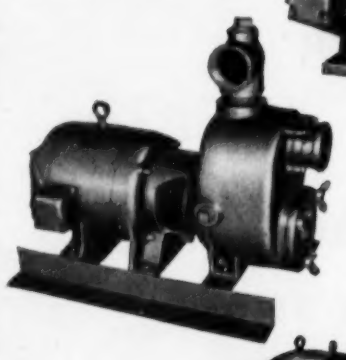
(Concluded on next page)

Got a *Pumping* problem? Let CARVER Help You Get Top Performance!

MODEL B ELECTROPUMP
5 to 70 G.P.M.



TYPE L ELECTROPUMP
30 to 900 G.P.M.



MODEL "K" PUMPS
Self-Priming
20 to 4000 G.P.M.

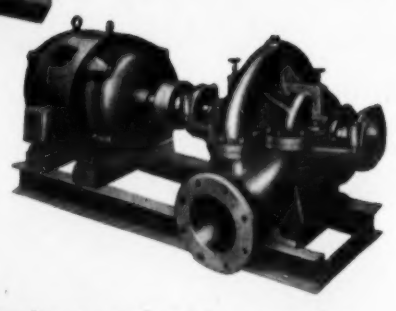


Fig. "400"
SPLIT-CASE PUMPS
200 to 2000 G.P.M.

Whatever your requirements there is a pumping unit in CARVER'S Complete Line that will fit your needs to a "T". On the easy jobs or the tough ones, the outstanding performance, inherent high efficiency and improved hydraulic design of CARVER PUMPS give you thoroughly dependable operation with full pumping economy . . . your best buy for better pumping. A few of them are illustrated.

Ask CARVER for the answer to your pumping problems . . . today. Give us the conditions, we'll give you the answer.

CARVER PUMPS are available with motor, gasoline engine, diesel or belt drive.

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CARVER
the quality name in pumps

Visit Our Booth at the All-Industry Exposition

Born of Experience...

first in 1937 with Blow-Through type evaporative condensers.

PROVED!
BY TROUBLE-FREE PERFORMANCE

SEE US AT THE 8TH ALL-INDUSTRY REFRIGERATION & AIR CONDITIONING EXPOSITION BOOTH NO. 920

PERMA-FAN
EVAPORATIVE CONDENSERS

FIRST to offer a blow-through type evaporative condenser that functioned with continuous, trouble-free performance—DRAYER-HANSON now introduces a newly designed, improved and greatly expanded line of evaporative condensers that utilize the blow-through feature along with design improvements in leak-proof housing construction, hot dip galvanized eliminators, circulating pumps, sump pan drainage and protective finish. In addition, corrosion and scaling of fans are eliminated because of fan location in the supply air stream. These newly designed units are manufactured with the same DRAYER-HANSON craftsmanship and high quality materials that earned the 1937 model a well-founded reputation for continuous and dependable service—even up to this date. Available in sizes ranging from 5 to 60 tons at 78°W.B.

For further information, write for free catalog, or consult your DRAYER-HANSON Agent today!

LONG *established in commercial refrigeration and air conditioning, DRAYER-HANSON offers a complete line of commercial refrigeration and air conditioning products.*

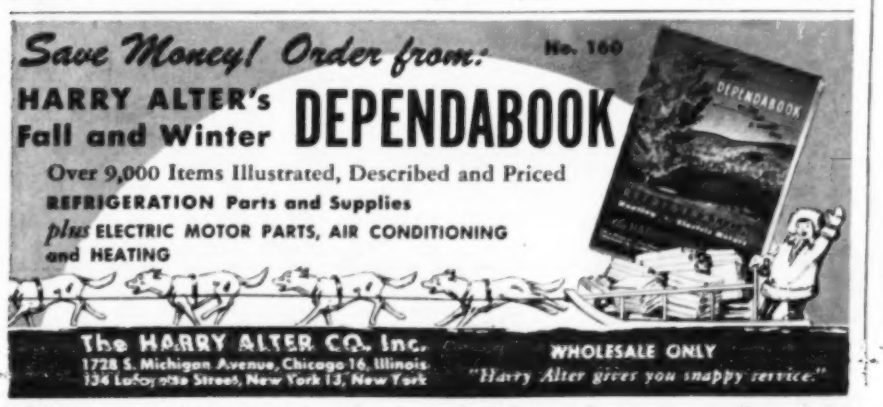
d-h SINCE 1919

drayer-hanson
INCORPORATED

1200 RELFORD STREET • LOS ANGELES 63, CALIFORNIA

Where Air Conditioning Was Installed In Detroit During 1952 and 1953

Establishment	1952 No.	1952 Hp.	1953 (6 Months) No.	1953 (6 Months) Hp.
Abstract company	1	39	....	....
Air conditioning dealer	1	5	....	....
Aircraft test cell	1	500	....	....
Airline ticket office	3	15	1	5
Apartment house	1	10	....	....
Appliance distributor	3	18	....	....
Appliance dealer	2	8	2	12½
Auto spray room	....	....	1	125
Bakery	1	5	2	20½
Bank	9	116	17	291
Barber shop	5	15	6	11
Beauty parlor	7	29	6	35½
Bird store	1	3	....	....
Bowling alley	1	5	....	....
Bridal shop	3	12	....	....
Building contractor	1	50	2	68
Cafeteria	1	15	1	7½
Candy manufacturing	....	....	1	5
Carpeting store	1	7½	....	....
Cartage office	1	10	....	....
Chemical company	....	....	1	15
Child's wear shop	....	....	1	3
Clinic	15	98½	13	67½
Clothing store	11	88	....	....
Club	4	148	4	33
Confectionery	1	3	1	5
Conference room	....	....	3	10
Corset shop	....	....	1	7½
Credit union	1	5	....	....
Dairy bar	2	25	1	6
Dance studio	....	....	1	10
Dental clinic	2	10½	....	....
Department store	1	15	7	2,050½
Die manufacturing	....	....	1	5
Dime store	3	57½	1	54½
Doctor	4	14	....	....
Drafting room	3	40	2	17½
Dress shop	9	55	10	51½
Drug manufacturing	1	15	3	20
Drugstore	12	83½	8	58
Dry goods store	2	15	2	8
Electrotyper	....	....	1	3
Engineering office	3	31½	1	5
Factory and factory office	37	489½	5	56
Film studio	....	....	2	6½
Funeral home	6	47½	4	19½
Furniture store	3	61½	4	66
Gauge room	4	18	1	3
Gift shop	....	....	1	5
Glass processing	....	....	1	30
Hardware store	2	17½	1	7½
Hospital	5	190½	3	1,818
Hospital operating room	....	....	4	17½
Hotel	2	22½	1	23
Insurance office	6	35½	3	53
Jewelry store	8	36	4	20½
Jewelry, wholesale	1	7½	..	..
Laboratory	10	85	....	....
Loan company	4	16	1	7½
Lumber company office	1	5	1	5
Market	23	446½	16	344
Men's store	4	20½	12	53
Millinery shop	2	8	1	5
Monastery	1	7½	....	....
Music store	....	....	2	47
Newspaper office	2	252	....	....
Nursery	2	12	....	....
Office	90	648½	49	710
Painter	....	....	1	3
Pet shop	1	3	....	....
Photo-engraver	2	12½	....	....
Photo studio	1	2	2	8
Plumbing contractor	1	15	....	....
Printer	5	29	1	6
Reading room	1	5	....	....
Real estate office	5	68	2	10
Residence	1	2	5	18
Restaurant	58	389½	17	111
Salesroom, automobile	2	10	....	....
Shoe store	8	63½	8	61
Spectrophotometry laboratory	....	....	1	3
Sporting goods store	..	..	1	27½
Steamship ticket office	1	5	1	2
Steel company	....	....	2	30
Stock broker	....	....	1	7½
Store	27	162	20	125
Tabulating room	2	12½	2	37½
Tailor	1	5	....	....
Tavern	35	214	22	136½
Taxi company office	1	5	....	....
Telephone office	....	....	1	5
Television studio	1	5	....	....
Theater	1	15	2	105
Tool shop	15	121	3	25½
Union hall	3	186	....	....
Union office	2	12½	....	....
University laboratory	....	....	1	5
Utility office	5	45	....	....
Veterinarian	1	7½	....	....
Warehouse	1	10	....	....
Welding company	1	3	....	....
Total	**512**	**5,411**	**310**	**7,034½**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Over 9,000 Items Illustrated, Described and Priced
REFRIGERATION Parts and Supplies
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The HARRY ALTER CO., Inc.
1728 S. Michigan Avenue, Chicago 16, Illinois
136 Lafayette Street, New York 13, New York
WHOLESALE ONLY
"Harry Alter gives you snappy service."

Detroit Air Conditioning Sales--

(Concluded from preceding page)

chalked up 52 units for 461 hp. in the period, while the third largest had 50 units for 360 hp.

As usual, it will be found that a few leading contractors installed a large proportion of the units. In the first six months of 1953, for example, the top six firms put in 285 units. These six represent 11.5% of the 53 contractors and their total of 285 is 56.7% of the 502 units.

In terms of horsepower this year, these top firms don't have quite so dominant a position, due principally to the unusually large jobs installed by another contractor, who actually is the local installing division of a large manufacturer. This firm installed only five units, but they totaled 2,950 hp.

Of the 53 contractors, 17 were firms that installed only one unit apiece in the first six months. Size of the units ranged from a high of 10 hp. down to 2 hp.

There were eight contractors who installed two units each for a total horsepower of 20 down to 6 hp. Five contractors installed three each for a total of 15 to 18 hp. apiece.

Last tabulation made of the 1953 air conditioning sales in Detroit shows where the installations were made and compares this data with similar data for the full 12 months of 1952.

This table shows that 310 different establishments were air conditioned in the first six months this year. This compares with 512 for all of 1952.

As previously noted, the installations so far this year totaled 7,034½ hp., well over the 12-month total of 5,411 hp. for last year.

In terms of number of establishments, air conditioned offices were leading with 49 at the midyear mark. This was to be expected because more offices are generally air conditioned than any other category of business place. In 1952 they led with 90.

Although offices were tops in number in the first six months their total installed horsepower of 710 was third, coming up behind the seven department store jobs which totaled 2,050½ hp. and the three hospital jobs aggregating 1,818 hp.

The latter includes one hospital installation of 1,800 hp.

Banks are accounting for a sizeable number of installations in Detroit this year. There were 17 air conditioned with a total of 291 hp. in the first half of the year, double last year's total of nine for 116 hp.

Air conditioning of food markets is likewise continuing at a rapid pace. Sixteen were air conditioned with 344 hp. in the first half of the year. Last year this group had 23 air conditioned with 446½ hp.

Other types of businesses that were air conditioned this year include 13 clinics, 10 dress shops, 12 men's stores, 17 restaurants, 20 stores, and 22 taverns.

In all, there are 68 different classifications for the 1953 section of this table.

Included here are five residential air conditioning jobs, compared to the single installation which went in last year. There has been much more interest in residential air conditioning in Detroit this year than heretofore, as in other cities, but it's doubtful that many such installations will show up on the city permits.

It is likely that most of the residential air conditioning systems in the metropolitan area will be outside the city limits and therefore will not require a permit from Detroit authorities.

Tay-Holbrook Distributes Airtemp In Calif., Nevada

DAYTON—J. E. Knoff, Chrysler Airtemp vice president and general sales manager, announced that Tay-Holbrook, Inc. has been appointed distributor of Chrysler Airtemp products in northern California and northern Nevada.

Tay-Holbrook, Inc. will distribute the complete line of Chrysler Airtemp air conditioning, heating, and refrigeration equipment through its headquarters in San Francisco, 165 Eighth St., and the company's 12 branches in the area.

Re-Elect Cloud Wampler to Industrial Conference Board

SYRACUSE, N. Y.—Cloud Wampler, president of Carrier Corp., has been re-elected a board member of the National Industrial Conference Board for a term of one year.

Wampler has been active in the work of the board for a number of years, having been elected a board member in 1947. The Conference Board, founded in 1916, is an independent and non-profit institution for business and industrial fact finding through scientific research.

WELCOME

to

ALL-INDUSTRY SHOW

from

CLEVELAND'S WHOLESALER

of

GENERAL ELECTRIC

COMMERCIAL PACKAGED AIR CONDITIONERS

WE EXTEND THE WARMEST WELCOME TO ALL VISITORS AND EXHIBITORS TO SEE US AT BOOTH 418 WHERE ON DISPLAY WILL BE THE INDUSTRY'S MOST TALKED ABOUT PACKAGED AIR CONDITIONERS.

Who are we?

The Baird-Foerst Corp. has pioneered in the strictly wholesale distribution of Air Conditioning Equipment to Dealers in Northeastern Ohio with the following services provided:

1. Fully-trained service facilities.
2. On-the-job delivery.
3. Co-operative advertising.
4. Engineering & Sales assistance.
5. Local warehouse stock.

THE BAIRD-FOERST CORP.

5301 STATE RD.

ON. 1-7600

Distributors also of General Electric Home Heating & Cooling

Everybody Reads

The NEWS

The NEWS is read by all factors actively engaged in the air conditioning industry. Manufacturers, distributors, dealers, installation and service organizations, contractors, architects, engineers . . . . all read The NEWS because it is a part of their business to do so.

To keep pace with this rapidly-growing industry it is important that they keep informed as to what's *new* . . . they get it in The NEWS.

NEWS circulation goes where the business is

Circulation is truly national . . . follows closely population, purchasing power, and the trend of active markets on a national basis as applied to the air conditioning and refrigeration business. Circulation is not "spotty" . . . The NEWS goes where the business is.

The NEWS gives you Editorial Leadership

During 1952 The NEWS published 72% more news on air conditioners and equipment than all other refrigeration and air conditioning publications combined. It consistently publishes more air conditioning editorial content than any other two publications in its field.

The NEWS gives you Advertising Leadership

Year after year The NEWS consistently carries more paid display advertising linage than any other two publications in its field combined.

The NEWS gives you Newspaper Influence

Newspapers generally publish far and away more advertising than any other type of publication. The public *reads* them.

By the same token an industry *reads* its newspaper . . . and is *influenced by what it reads.*

AIR CONDITIONING & REFRIGERATION NEWS is "The Newspaper of the Industry."

You are wise to choose the NEWS!

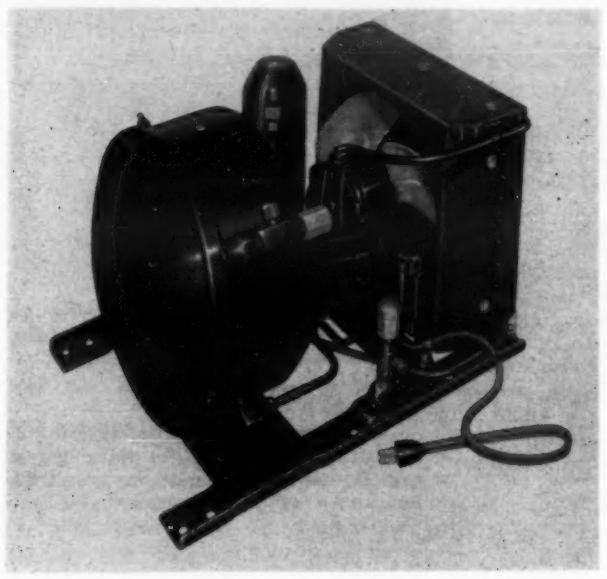
If you are already using The NEWS, your choice is a wise one. If you aren't using The NEWS, plan to do so in 1954.

ABP *AIR CONDITIONING & REFRIGERATION* **News**

ABC

1150 WEST FORT STREET, DETROIT 26, MICHIGAN

521 FIFTH AVE., NEW YORK 134 S. LA SALLE ST., CHICAGO COMMERCIAL BANK BLDG., BEREA, OHIO



THIS SEALED CONDENSING UNIT has been added to the Kelvinator commercial line. Featuring a hermetically sealed and internally mounted mechanism, the new unit has five exclusive features and is offered after five years of engineering study and a year of field testing.

New Kelvinator Sealed Units--

(Concluded from Page 1)

making lower operating temperatures and more efficient cooling possible.

2. A fan is attached to the motor rotor which whirls refrigerant to inside walls of the dome for rapid dissipation of heat.

3. The compressing "floats" inside the dome instead of being firmly attached to it. This makes operating practically noiseless, Patterson said.

4. The unit contains a suction muffler and a discharge muffler, further contributing to quiet operation.

5. Multiple springs serve as twin stabilizers that absorb torque reactions, thus reducing vibration.

In addition, the new internally-mounted unit eliminates shipping bolts. It is completely protected against abnormal handling and operating conditions, Patterson said.

A new style plug-in type starting relay and thermal overload bimetallic trip-out device plugs into a dome-mounted 5-prong receptacle. It is affected by temperature as well as by current increase, thus providing protection for motor windings against overheating and excessive current. It has no external wires from motor terminals.

The suction service valve is a two-way, back-seating type and has a connection for a service gauge. The liquid service valve is of the same type with connection for a pressure gauge for purging or for testing head pressure.

In the new nested-fin type condenser, fins are designed so that tubes are an integral part of the whole assembly. The entire condenser, including return bends and stanchions, is hydrogen-brazed, then high-pressure tested to insure against leaks. This results, Patterson said, in much better heat conduction, proportioned in relation to volume of air flow to assure low head pressures and highest efficiency.

The condensing unit is mounted on a heavy-gauge, angle iron open base to permit air flow around the compressor dome and to the condenser. Condenser guard and shroud are made of pressed composition fibreboard. It protects the condenser and channels cool air over the compressor dome and condenser.

A pressure-fed lubricating system forces oil to every moving part and floods every bearing surface to minimize friction and insure quiet operation.

Ten models of the new condensing unit are offered in ⅛, ¼, and ⅓-hp. ratings. Two of the models are split phase and two are capacitor start.

Sanitation Foundation Adds 2 to Lab Staff as Inspections Increase

ANN ARBOR, Mich. — Two new members have been added to the staff of the recently-incorporated Testing Laboratory of the National Sanitation Foundation, it has been announced by Dr. Henry F. Vaughan, president of the foundation and dean of the University of Michigan's School of Public Health, where the Foundation has its headquarters.

They are Charles A. Farish and Jack McAllister.

Farish comes to the Testing Laboratory from Columbia, S. C., where he was director of sanitation for the State Board of Health. He served as a Captain in the Sanitary Corps of the U. S. Army during World War II and holds several degrees, including a Master of Public Health from the University of Michigan. He is a Fellow of the American Public Health Association.

McAllister, a graduate of the University of Michigan School of Public Health in 1952 with the degree of MSPH, comes from the Indiana State Health Department's branch office at La Porte, Ind. His basic degree was obtained at Indiana university, where he was among the first five students to be graduated in public health.

Both men will assist Walter D. Tiedeman, executive director of the Testing Laboratory, with the nationwide program of inspecting food service and other health-related equipment for compliance with National Sanitation Foundation (NSF) uniform standards and use of the Testing Laboratory's new "seal of approval."

Augmentation of the Testing Laboratory staff was made necessary by the heavy inspection schedule resulting from requests by manufacturers of health-related equipment following the recent publication, by the NSF, of nationally uniform standards for soda fountain, luncheonette, and food service equipment, and for spray-type dishwashing machines.

These NSF standards for the design, manufacture, and installation of such equipment were drawn up by national and local health authorities and equipment manufacturers, working together through the NSF, to bring about uniformity of specifications and ordinances governing such equipment throughout the country.

Acme Announces New Item To Broaden Scope of Line

JACKSON, Mich. — New products which broaden the scope of the Acme line, including the "Flow-Temp" heat pump, and extension of its heat pump line through 225 hp. were announced recently by Acme Industries, Inc. at a series of regional meetings.

Meetings were held in New York City, Chicago, New Orleans, and Los Angeles. They were conducted by C. W. Millsom, sales manager, assisted in New York and New Orleans by D. G. Merrill, assistant sales manager, and P. A. Weatherwax, vice president, and in Chicago by H. W. Smith, advertising and sales promotion manager.

Roger Bay Promoted To Bonney Vice Pres.

ALLENTOWN, Pa. — Election of Roger O. Bay as a vice president of Bonney Forge & Tool Works here has been announced by J. W. McDougal, president of Bonney and of its parent company, Miller Mfg. Co. of Detroit.

Commercial Refrigeration

Commercial Dealer Indicates What Type of Advertising Serves Which Objective Best

OMAHA, Neb.—What types of advertising have the greatest customer appeal?

Gordon Lozier of Gordon Lozier Co., commercial refrigeration firm here, says he uses three different classifications of advertising with good effect.

His comments appeared in a recent bulletin from the National Commercial Refrigerator Sales Association. They were added to others previously made by other distributors. These were reported in the Sept. 26 issue of the NEWS.

USED EQUIPMENT ADS

For used equipment, Lozier places want ads in the Sunday edition only of the local newspaper. "We devote 10 to 20 lines each and every Sunday on whatever used equipment we have in stock," Lozier said, "and never at any time mention new equipment."

He not only separates new and used equipment advertising, but keeps the two types of equipment in separate showrooms. By doing so, he has improved his sales of both new and used merchandise.

"New equipment sales are best promoted by using direct mail literature as supplied by the manufacturers, in which the theme is more profits, less work, or more new customers," he continued.

"This type of advertising has an addressed return card attached. A mailing once a month is considered desirable and sufficient. We receive about an equal number of return cards from new and old customers."

PRESTIGE BUILDING

And thirdly, Lozier has found that in order to maintain the top position in his area some form of prestige-building advertising is necessary.

"This helps to sell our organization as one best qualified to do a complete job or a partial remodeling."

"The type of advertising we use to build prestige is either a house organ or a special direct mail piece laid out by myself along the line of selling our organization and its services which are available to the retailers.

"We generally send out six mailings of this type of advertising a year. Some of these have direct mail cards and some, such as the house organ, do not."

NOW..
THE
ICE-CUBER
YOU CAN
COUNT ON
FULLY
AUTOMATIC
ICE-
FLO!
(SINCE 1947)
Be sure to see us
at the All-Industry
Exposition in Cleveland
BOOTH 913
Working Ice-Flo Models
on Display
FIVE
ICE-FLO MODELS
Sizes from ⅓ to 1½ h.p. with either air or water cooled condensing units and thermally controlled freezing cycle. Extra large, pull-out, insulated storage cabinets.
THE ORIGINAL Solid-Cube Ice Maker for Hotels, Restaurants, Clubs, Bars, Cafeterias, Schools, Hospitals, Institutions, Motels, Drug, Chain and Package Stores.
A DOOR-OPENER to better, lower cost ice service, ICE-FLO automatically produces sparkling clear, solid, uniform, DeLuxe size ice cubes in quantity at point of use — regardless of ambient temperature. They neither mat nor stick together. Freezing compartment is self-cleaning. Solid cubes last longer in both drinks and storage.
DEPENDABLE ECONOMICAL
STURDY
WRITE FOR DETAILED INFORMATION
Esmond Manufacturing Company
ESMOND RHODE ISLAND

Current LITERATURE available

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Presstite Offers Catalog On Sealing Compounds

——KEY NO. O-1120——

ST. LOUIS—A new 34-page catalog covering the entire line of Presstite sealing compounds for the refrigeration industry, including their complete line of odorless sealers, has been published by Presstite Engineering Co. here.

The illustrated catalog provides information on laboratory data, specifications and methods of application for 50 Presstite refrigerator sealants, including the various types of non-oxidizing Permagum, mastic sealers, plastic sealers, thermal mastics, elastic compound tape, beads and special shapes, wood sealers, insulation tape, Flexseal asphalt, barrier paper, washer type sealers, spotweld sealer, glazing compounds, and miscellaneous sealers.

Most of these compounds are unique in nature, having been developed and formulated to do a particular job to meet special conditions of use and application.

Tells Use of Plenum Above 'Acusti-Luminus' Ceiling

——KEY NO. O-1121——

CHICAGO — A 16-page brochure telling of the economies effected through the use of the plenum above an "Acusti-Luminus" ceiling in air conditioning and heating has been announced by Luminous Ceilings, Inc. here.

The booklet includes tests on acoustical treatments of luminous ceilings.

The manufacturer says that by using the plenum chamber above an Acusti-Luminus ceiling as an expansion and distribution chamber, excellent air diffusion is effected.

The ⅛-in. opening at each side of the corrugated "Lumi-Plastic" sheet provides excellent distribution throughout the area for either heating or air conditioning, he adds.

Ductless diffuser is accomplished by introducing air from supply to the area above the ceiling. From there it filters through equal openings evenly through the area where it is exhausted in the usual way. This method can be reversed for use as an exhaust plenum.

Penn Issues New Catalog On Refrigeration Controls

——KEY NO. O-1122——

GOSHEN, Ind.—Penn Controls, Inc. here has released its 1954 condensed catalog on refrigeration and air conditioning controls.

The 24-page issue contains complete information on applications, engineering data, dimensions and specifications, and ordering procedure for Penn's full line of mechanical cooling controls.

Newly-added to the Penn line is an extended group of single pole and two pole, heavy duty refrigeration controls, and listed for the first time is a new-type cooling tower control and a duct-fire protection control.

'Statement of Scope' Tells All About Wolverine Tube

——KEY NO. O-1123——

DETROIT — Announcement of a new complete "Statement of Scope" booklet was made recently by H. A. Harty, advertising manager of Wolverine Tube Div. of Calumet & Hecla, Inc.

This 12-page, pocket-sized booklet is presented for convenient reference to Wolverine Tube Div. products, their range of sizes, lengths, and tempers available as well as a complete scope of the company's facilities.

Also featured are listings of individual product literature available and locations of Wolverine sales offices and plants.

Copies of the booklet are available from Wolverine Tube.

Kramer Trenton Publishes 'Unicon' Application Manual

——KEY NO. O-1124——

TRENTON, N. J.—Kramer Trenton Co. announces the availability of its new "Unicon Application Manual U-250."

"The new publication—the first of its kind—contains exhaustive and fully documented information on how to completely eliminate water on any size refrigeration or air conditioning system through use of the Kramer 'Unicon' — a self-contained remote type air-cooled condenser," the company said.

The manual contains facts and photographic information "based on Kramer's 15 years of pioneering experience, know-how and development, and successful application of the 'Unicon'."

Worthington Has Bulletins On Three 'Freon-12' Units

——KEY NO. O-1125——

HOLYOKE, Mass. — Worthington Corp. is offering bulletins for three models of "Freon-12" refrigeration units.

Model WUA is equipped with an air-cooled condenser; model WUW is equipped with a water-cooled condenser; and model WUAW is equipped with an air-water cooled condenser.

The bulletins contain complete specifications for the three models through the complete range on sizes from ¾ hp. to 3 hp. The units include a compressor, condenser, electric motor, drive controls, and auxiliary equipment.

The company said bulletins should be requested by number: C-1100-B42B for model WUA; C1100-B43b for model WUW; and number C-1100-B48 for model WUAW.

Koch Supplies Issues General Catalog No. 78

——KEY NO. O-1126——

KANSAS CITY, Mo. — Koch Supplies has recently published a new general catalog for 1954, Catalog 78. It illustrates and describes more than 2,000 products used in the slaughter and processing of meat. Complete specifications are given, with prices in plain figures.

Catalog Gives Data on '54 'Oasis' Water Cooler Line

——KEY NO. O-1127——

COLUMBUS, Ohio—The Ebco Mfg. Co. here has published a new 8-page "Oasis" water cooler catalog featuring duotone reproduction of the 1954 line.

More than 15 Oasis water coolers are offered in 2 to 35 g.p.h. capacities.

Varieties include pressure coolers where plumbing is available, bottle-type coolers which require no plumbing, coolers with cold storage compartments and ice cube trays, explosion-proof coolers, cafeteria and restaurant coolers, and heavy-duty industrial coolers.

Most Oasis water coolers are available with hand dial or foot pedal bubbler control, with stainless steel or white porcelain steel tops, with alternating or direct current operation.

Tell Complete Range Story, New Norge Bulletin Advises

——KEY NO. O-1128——

CHICAGO — Dealers may know their electric range features, but they must explain and demonstrate every feature every time to bag the most sales.

That's the theme of a new electric range sales bulletin issued by H. L. (Red) Clary, vice president in charge of sales of Norge Div. of Borg-Warner Corp.

No matter how well the dealer knows the range, he should assume that no new prospect has ever seen or heard about the advantages Norge offers, the manual advises.

Features of Norge electric ranges are reviewed point by point in the manual.

4-Page Folder Describes Foamglas Pipe Insulation

——KEY NO. O-1129——

PITTSBURGH — A new four-page folder, "FOAMGLAS, The Long-Life, All-Temperature Pipe Insulation," has been made available by the Pittsburgh Corning Corp.

This new folder features on-the-job installation photographs pointing out the advantages of cellular glass insulation for pipe temperatures between -300° and +800° F.

A complete listing of the physical properties of Foamglas and condensed recommended specifications are provided.

Booklet Data Helps Size Pressure Relief Valves

——KEY NO. O-11210——

CHICAGO—A new 24-page booklet, "Selection and Sizing Pressure Relief Valves to Comply With ASME Boiler Requirements," has been published by McDonnell & Miller, Inc., manufacturer of boiler controls.

A copy will be sent readers without charge, on request.

"Although the ASME Code is explicit about the selection of pressure relief valves with capacity ratings to match gross heat output of the equipment," McDonnell & Miller reports, "no guide procedure is readily available for calculating or determining gross heat outputs." This booklet is intended to provide complete and easy-to-use data for accurately determining the output of all types of boilers, tanks and heaters.

Formulas and tables cover recommended relief valves for cast-iron boilers and steel boilers, as well as those boilers for which there is no nameplate data or set procedures for establishing the output. Also covered are hot water supply heaters and tanks, heat exchangers, and unfired pressure vessels.

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FIELD TESTED
TIME TESTED
for MAXIMUM performance
for LASTING satisfaction
UPRIGHT FREEZERS
Model UF 32 32 cu. ft. Freezer Storage
Model UF 211 21 cu. ft. Freezer Storage
Model UF 172 17 cu. ft. Freezer Storage
Model UF 171 17 cu. ft. Freezer Storage
BEVERAGE EQUIPMENT
Model UF 121 10 cu. ft. Freezer Storage
KOOLMASTER Direct Draw Beer Dispensers
UNDER COUNTER Dry Bottle Coolers
DRYKOOL Bottle Coolers
KUBEMASTER Ice Cube Maker

The United emblem on your equipment is more than just a name—it's a symbol of leadership in refrigeration design and a guarantee of satisfaction over the years. Exhaustive laboratory tests, plus field checks of units already in use, are conducted to insure maximum performance. Reports from owners of our earliest models give proof of lasting satisfaction. Make your selection from the line that passes every test—United.

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Export Sales Division
Scheel International, Inc.
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REFRIGERATOR COMPANY
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Hudson, Wisconsin

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Complete with Compressors, motors, starters, valves, pumps & accessories. These machines are now in operation.

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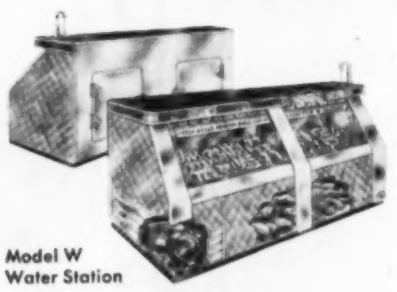
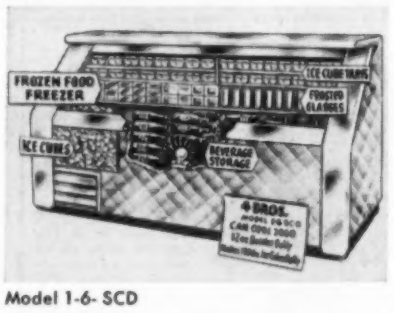
NEW, ORIGINAL 4-BROS. ALL-PURPOSE REFRIGERATED CASES THAT ARE BEAUTIFULLY STYLED AND GIVE TROUBLE-FREE PERFORMANCE!


Model W Water Station

COMB. POULTRY-FISH CASE
Service and Self-Service

Displays and stores fish and poultry in separate odorproof sections. Moisture-drip keeps fish and poultry fresh. Formica top with recessed water station. Makes its own ice cubes.

5 to 10 Ft. Long, 28" W., 39" H. or Custom-built any size to your measurements.



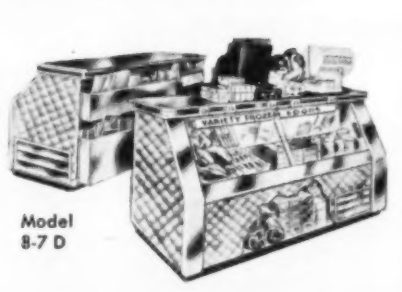
Model 1-6- SCD

5-IN-1 ICE CUBE MAKER & COMB. BEVERAGE COOLER

Deluxe Model especially designed for Night Clubs, Taverns, Grills, etc.

Makes 150 lbs. ice cubes and dry chills 1200-12 oz. bottles daily at 34° F. Frosted glass shelf can be used as a freezer at 20° F.

4 to 10 Ft. Long, 27" W., 39" H. or Custom-built any size to your measurements.


Model 8-7 D

COMB. FROZEN FOOD CAB. & CHECK-OUT COUNTER DISPLAY

Stainless steel self-service, sliding glass doors for easy access. Formica top, bag racks at back, price panels. Saves valuable floor space.

5 to 10 Ft. Long, 20" W., 37" H. or Custom-built any size to your measurements.

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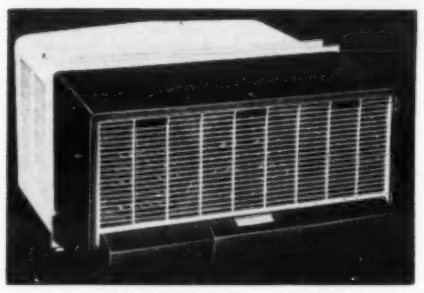


1954 G-E Room Air Conditioner.

G-E Room Coolers

(Concluded from Page 1, Column 4)

ucts department, said the design changes provide increased cooling and dehumidification, also a lower velocity air flow resulting in quieter operation.

The ¾-hp. size will also be available with reverse cycle operation for heating in cool weather as well as cooling in warm weather, employing the principle of the G-E Weathertron (heat pump).

The three larger capacity models, which are identical in appearance, are characterized by new styling designed to blend harmoniously with the widest possible range of room decorative schemes and furnishings. The all-steel cabinet is finished in a mahogany-grain coat of baked enamel and the ornamental grille has a gold finish.

NEW OPERATING FEATURES

New operating features of these three models include a powerful exhaust for the rapid removal of smoky or odor-laden air, and a single control for five comfort positions, including a setting for extra dehumidification on muggy days.

Three circular louvers, located behind the ornamental grille, can be rotated independently to direct air flow in a wide variety of patterns, thus making each of the room air conditioners readily adaptable to individual needs.

Two plastic control dials are mounted on a recessed panel at the front base of the cabinet and are concealed behind a small horizontally hinged door.

The left-hand dial, which turns the units on and off, permits easy selection of the five comfort positions—maximum cooling, normal cooling with ventilation, cooling with extra dehumidification, fresh air ventilation, and stale air exhaust.

THERMOSTATIC CONTROL

The right-hand dial controls temperature selection. This thermostatic control turns the refrigerating mechanism off when the room temperature drops to the selected level, and turns it on again when the temperature rises a few degrees above that level. A ventilating fan will continue to filter and circulate room air after the refrigerating mechanism has been turned off.

The ⅓-hp. model has two flick-type toggle switches mounted, like the dials on the larger capacity models, on a recessed panel at the front base of the cabinet and concealed behind a small horizontally hinged door.

Air intakes on all models are located on the underside of the cabinet where they will not be obstructed by drapes or curtains.

The exterior housing on all models, crowned in the manner of an automobile hood for rapid flow-off of rainwater and snow, is finished in a mist-green coat of highly weather-resistant baked enamel.

All models are 14⅞ in. high and 25⅝ in. wide, and can be installed normally with ordinary hand tools in less than half an hour in windows of 26 in. or greater width. The ⅓-hp., ½-hp., and ¾-hp. models are 31⅞ in. in over-all depth and extend 13¾ in. into the room from the window line. The 1-hp. model is 32⅞ in. in over-all depth and extends 14¾ in. into the room.

The 1-hp. unit, Model R-72, designed for room areas up to 700 sq. ft. under average conditons, is available for either 208-volt or 230-volt operation.

The ¾-hp. unit, Model R-52, designed for room areas up to 500 sq. ft., is available for 115-volt, 208-volt, or 230-volt operation.

The ½-hp. unit, Model R-32, designed for room areas up to 300 sq. ft., and the ⅓-hp. unit, Model R-22, designed for room areas up to 200 sq. ft., are available for 115-volt operation.

Essex Program Will Aid Refrigeration and Air Conditioning Producers

MONTICELLO, Ind.—A new production and merchandising program designed exclusively for manufacturers of air conditioning and refrigeration units is being set in motion by Essex Wire Corp., reports W. J. Shea, vice president.

The plan affects three Essex Divisions manufacturing cord sets, electrical controls, and wire assemblies, and is designed to give engineering, production, and service priority to manufacturers of air conditioning and refrigeration equipment, Shea states.

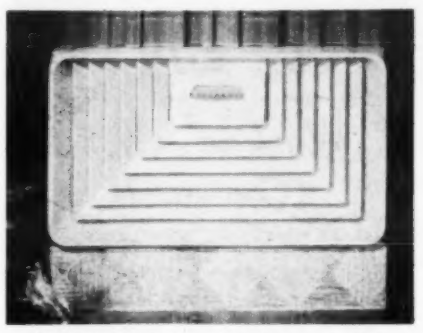
Shea said that a number of Essex Wire executives, plant managers, and 68 field service representatives had made informal personal surveys relative to the future demands of the industry, and how the company might best service the industry. An analysis of these surveys has resulted in the following plan:

(1) Additions are being built to both the Cord Set and Wire Assembly Division factories.

(2) A special engineering and manufacturing section has been incorporated in the electrical controls plant.

(3) Certain development engineers have been assigned to work with those who have been engaged with electrical research for this new industry since World War II.

(4) Essex Wire field service personnel have been increased, and manufacturers are being encouraged to avail themselves of the engineering specialists from the three dfvisions who augment the field men.



Mitchell Flush Mounted Room Cooler.

Mitchell Room Unit--

(Concluded from Page 1, Column 5)

the offering of a room air conditioner that extends only 2¼ in. past the window pane and does not protrude or bulge into the room area. The new design allows curtains, shades or draperies to hang straight, completely covering the unit when it is not in use.

In addition new air foil diffusers, utilizing the principles of air diffusion developed by La Voisier, assure draft-free circulation of air and even distribution of cool comfort to the room, Mitchell said.

Mitchell engineers have incorporated into its 1954 unit a principle heretofore employed only in jet aircraft. Termed the jet cooling coil, Mitchell explained that this engineering development maintains peak cooling capacity under even the most difficult operating conditions.

The chassis construction of the 1954 Mitchell unit has been reengineered to include increased volume of air intake for ventilation, through a new design which Mitchell calls "Push-Pull."

Two fans operate to increase the intake and circulation of outside air for ventilation. One fan pulls the air in from the outside, while the second fan boosts its volume and velocity before pushing it out into the room.

Virtually silent operation of its room air conditioners is achieved through the use of an new sound muffling device, Mitchell says.

Another innovation in simplified operation is the new concealed single knob "Weath'r Dial." The "Weath'r Dial" provides seven comfort levels.

The "Weath'r Robot" automatic thermostat is being offered for the first time as standard equipment on the ¾, 1, and 1½-hp. units and is optional equipment on other units in the line.

In addition, Mitchell said his firm has expanded its line by adding a 1½-hp. unit for complete air conditioning of extra large rooms and offices.

Models in the 1954 line are as follows:

Model No.	Hp.	Volt	Price
M-134	⅓	115	$229.95
M-124	½	115	279.95
M-344	¾	115	379.95
M-2304	¾	230	389.95
M-2084	¾	208	399.95
M-1004	1	230	449.95
M-12084	1	208	459.95
M-1244	1½	230	550.00
M-244	¾ special	115	299.95
M-2344	¾ special	230	309.95

Remington Line--

(Concluded from Page 1, Column 3)

The ½-hp. deluxe model will be accompanied by a new ⅓-hp. unit, a ½-hp. master model, and both a ¾-hp. and 1-hp. deluxe unit.

The new ⅓ and ½-hp. units are being produced at the Remington plant here and are part of the firm's tropic-tested line for heavy duty operation, which also includes 1 and 1½-hp. consoles. The ¾ and 1-hp. window units are being made for Remington by Servel.

Fully insulated and resilient-mounted for quiet operation, the new ⅓ and ½-hp. units are designed with a one-piece tubular housing. This permits installation almost entirely inside or outside the room, to comply with zoning laws and/or customer preference.

This adjustability on the window sill is achieved while still maintaining the popular drawer type of construction. The ⅓ and ½-hp. chassis are interchangeable in the same tubular housing.

An exclusive feature, a 2-stage fan system, assures constant ventilation regardless of wind direction and permits stale air exhaust without stopping cooling action.

Thermostats for automatic temperature control are standard equipment on the ½-hp. deluxe and 1-hp. models, optional on others. Electric heating, optional with the ½-hp., ¾-hp., and 1-hp. window models and the 1-hp. console, is provided as factory-installed equipment on the new 1½-hp. console.

Judd pointed out that the 1½-hp. console is the first and only room air conditioner regularly equipped with a thermostat that controls not only the cooling function, but heating as well.

"We call it twin-season heating," Judd explained, "because this unit provides comfort on chilly days."

Reminton's 1954 console line also

Remington's 1954 Room Cooler.

includes a 1-hp. unit that is factory equipped with cooling thermostat, but heating unit is optional.

Designed for large rooms in homes and offices or for more than one room, Remington consoles are housed in cabinets of dark or blonde mahogany. They provide ventilation, circulation, filtering, elimination of outside noise, with or without cooling and dehumidification, automatic control facilities, and heating.

Air-cooled models available are the Director, 1 hp., and the Overton, 1½ hp. They are easily installed or moved, require no plumbing.

Water cooled units may be installed in locations where an outside air source is not available. All models are supplied for 115 and 230 volts d.c. and 208 or 230 volts a.c., 50 or 60 cycle. Approximate dimensions are 37 in. wide by 38 in. high by 21 in. deep.

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Automotive

AIR-CONDITIONING UNITS

Individually crated MAJOR COMPONENT KITS with EVAPORATOR COIL with BLOWERS and VALVE—CONDENSER COIL—LIQUID RECEIVER—CONTROL SWITCHES—AIR GRILLES—Nationally-known 4 cyl. COMPRESSOR with FLYWHEEL.

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by James J. LaSalvia

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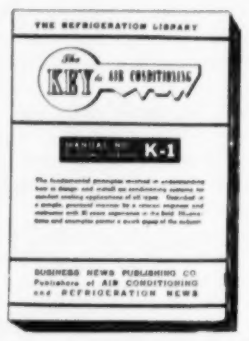
MANUAL NO. K-1—The physics of air conditioning; use of charts; methods of ventilation; figuring air requirements; refrigeration problems in air conditioning; use of fans; methods of air distribution. Psychrometric chart included with book.

MANUAL NO. K-2—Sheet metal ducts (sizing methods, problems of design); discussion of air cleaning devices; heat transmission coefficients; problems and tables for figuring heat gain; air through cooling coils; selection of cooling coils, expansion valves, compressors, and water cooling coils.

MANUAL NO. K-3—General discussion of heating systems; selection of heating coils (air friction, condensation); description and operation of evaporative condensers; water cooling towers; automatic controls; piping refrigerant, water, and steam; and insulation problems.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— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

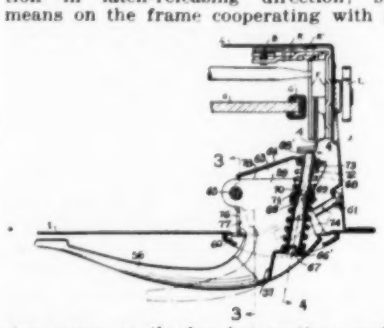
BUSINESS NEWS PUBLISHING CO., DETROIT

PATENTS

Week of July 7 (Continued)

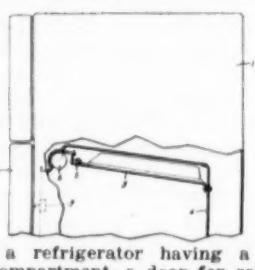
2,644,712. CONTROL MECHANISM FOR DOOR LATCHES. Edwin L. Allen, Cleveland Heights, Ohio, assignor, by mesne assignments, to Rudolph I. Schonitzer, Cleveland, Ohio. Original application Feb. 16, 1948, Serial No. 8,565, now Patent No. 2,573,679, dated Nov. 6, 1951. Divided and this application Aug. 18, 1951, Serial No. 242,476. 11 Claims. (Cl. 292—336.3.)

10. Control mechanism for a door latch including a supporting frame mounted on the door; an exteriorly accessible manually operable handle pivotally supported on the frame for movement between a non-operating neutral position and a latch-releasing position; a bracket portion at the inner end of the handle, the walls of said bracket portion defining an enclosure facing away from the handle and toward the interior of the frame; stop means on the bracket portion for preventing excessive movement of the handle out of non-operating neutral position in latch-releasing direction; stop means on the frame cooperating with the



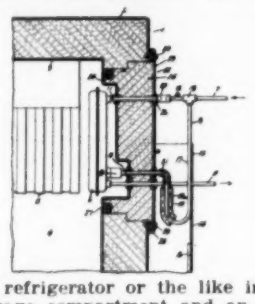
stop means on the bracket portion; spring means interposed between the frame and the handle, said spring means consisting of a first coil spring of light construction and, opposing it, a second coil spring of heavy construction; a plunger within the coil spring of light construction, said plunger extending therefrom into juxtaposition to the latch; and, intervening between the plunger and the coil spring of heavy construction, thrust means for transmitting to the plunger forces imposed on the handle by the act of moving it out of non-operating neutral position in latch-releasing direction.

2,644,314. COMPENSATED CONTROL SYSTEM. Frank A. Schumacher, Erie, Pa., and John B. Tucker, Marblehead, Mass., assignors to General Electric Co., a corporation of New York. Application March 30, 1951. Serial No. 218,376. 4 Claims. (Cl. 62—4.)



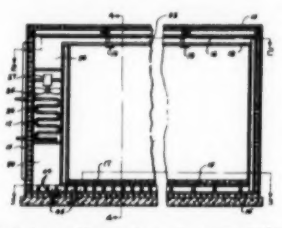
1. In a refrigerator having a refrigerated compartment, a door for said compartment, an evaporator for cooling said compartment, and condensing apparatus for supplying refrigerant to said evaporator; a temperature and illumination control system comprising temperature-sensing means mounted adjacent said evaporator, a first switch actuated by said temperature-sensing means, said first switch controlling the operation of said condensing apparatus, a lamp mounted immediately adjacent said temperature-sensing means whereby heat from said lamp when illuminated is transferred directly to said temperature-sensing means and a second switch actuated by said door, said second switch deenergizing said lamp when said door is closed and energizing said lamp when said door is opened whereby heat is supplied directly from said lamp to said temperature-sensing means for actuating said first switch substantially immediately after said door is opened and without appreciably increasing the temperature of said refrigerated compartment.

2,644,316. WATER COOLING ARRANGEMENT FOR REFRIGERATORS. Howard A. Wyman, Jr., Wesleyville, Pa., assignor to General Electric Co., a corporation of New York. Application June 10, 1950. Serial No. 167,422. 9 Claims. (Cl. 62—7.)



1. In a refrigerator or the like including a storage compartment and an evaporator for cooling said storage compartment, a water cooling arrangement including a storage container for water disposed in said storage compartment adjacent the evaporator whereby water therein is cooled by said evaporator, a conduit having both ends connected to said container in communication with the water therein to provide a closed water circulating path with said container, said conduit including a single vertical portion exposed to ambient temperature whereby heat is supplied to the water in said vertical portion of said conduit thereby to induce circulation of water through said conduit and said container, and means dependent on the temperature of the water in said container for controlling circulation of water through said conduit.

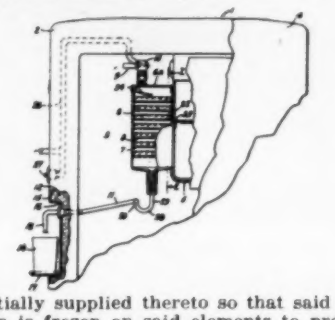
2,644,371. REFRIGERATING STORAGE APPARATUS. Harold D. Haywood, Vancouver, British Columbia, Canada. Application June 19, 1950. Serial No. 168,920. In Canada June 27, 1949. 4 Claims. (Cl. 62—95.)



1. Refrigerating storage apparatus comprising an insulated room, a low pressure chamber covering the ceiling of the room, a blower and freezing unit having an inlet and an outlet, the inlet of the blower being connected to the ceiling chamber, a plenum chamber connected to the blower outlet, a plurality of channels radiating from the plenum chamber in the floor covering the entire area of the latter, each of said channels increasing in width towards its outer end, a plurality of vertical partitions dividing each floor channel into sub-channels adjacent its outer end, some of said partitions extending from the outer end of each floor channel back therein farther than others, and a plurality of vertical channels in each of the walls covering the entire area thereof leading from the floor channels to the ceiling chamber, each floor channel being connected at its outer end to plurality of wall channels to form therewith part of an individual circuit which extends from the plenum chamber through the floor and a wall to the ceiling chamber and back to the blower and freezing unit inlet, and each circuit being completely separate from the others in the floor and walls.

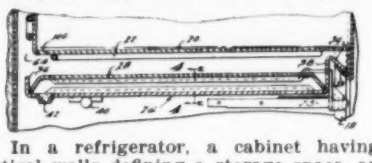
2,644,318. WATER COOLER FOR REFRIGERATOR. Carl R. Sebens, Bridgeport, Conn., assignor to General Electric Co., a corporation of New York. Application January 6, 1950. Serial No. 137,201.

1. In combination with a refrigerator including a cooling unit, a water-cooling arrangement comprising a housing secured in heat exchange relationship with the cooling unit, a plurality of water-receiving and retaining elements secured to said housing in spaced relationship to each other and in fixed direct heat conducting relationship with said cooling units, said cooling unit operating at a temperature below the freezing point of water, and means for supplying water to said elements, each of said elements being formed to retain at least a portion of the water



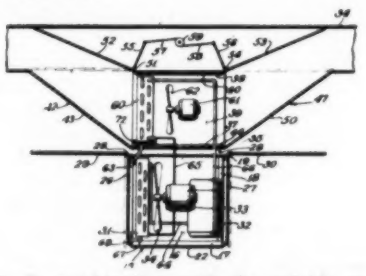
initially supplied thereto so that said portion is frozen on said elements to provide a body of ice on each of said elements whereby water subsequently supplied to said elements flows over said ice and is cooled rapidly by contact therewith.

2,644,319. DEVICE FOR MAINTAINING DIFFERENT TEMPERATURES IN REFRIGERATORS. Clinton Millman, Greenville, Mich. Application January 4, 1950.



1. In a refrigerator, a cabinet having vertical walls defining a storage space, an evaporator in the upper portion of said space and having a downwardly depending upturned hooklike element, a first baffle extending transversely of said walls and comprising a member a bottom wall surrounded by a peripheral flange extending upwardly above the plane of said bottom wall, one portion of said flange having a downturned hooklike portion receivable within said element to support said first baffle, a second baffle comprosing a top wall having spaced downturned portions seating on said first baffle and supporting said top wall in spaced relation to and above said bottom wall, said bottom wall being undulated to provide crests and valleys, said bottom wall being apertured at at least some of said crests, said top wall being movable relative to said bottom wall and having an aperture aligned with said bottom wall aperture when said members are in a first relative position and disaligned when said members are in a second relative position.

2,644,321. WALL MOUNTED AIR CONDITIONING UNIT. William F. Borgerd, Evansville, Ind., assignor to International Harvester Co.



3. In combination with the outside wall of a building having a duct disposed along the inside of said wall and having an opening through said wall, a high side compartment and a low side compartment, said low side compartment mounted on the inside of said wall below said duct and above said opening, an evaporator mounted within said low side compartment, said high side compartment comprising a casing mounted on the outside of said wall completely enclosing said opening, a compressor, condenser and fan means mounted within said high side compartment, flexible tubing interconnecting said evaporator, compressor and condenser, two opening disposed in two sides of said casing, said condenser and said fan means mounted horizontally in line with said two openings so that said fan means operates to cause a horizontal air circulation into one of said two openings, over said condenser and out of the other of said openings, two openings disposed in two sides of said low side compartment, a pair of ducts, each of said pair of ducts mounted to enclose one of said openings in said sides of said low side compartment, and connected to said duct disposed along said wall, damper means associated with said pair of ducts and operable to one position to effectively place said low side commpartment within said duct disposed along said wall and operable to another position to effectively remove said low side compartment from said duct disposed along said wall.

(To Be Continued)

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11-9-53

Food Chains Plan Cooling Of More Supermarkets

SYRACUSE, N. Y.—The trend to air conditioning of supermarkets is increasing steadily, according to a Carrier Corp. official.

Robert Hogue, manager of Carrier's national buyer department, recently noted that National Tea Co. is air conditioning 15 to 20 stores this year, and that Safeway Stores is putting cooling systems in 100 stores.

Nesco Makes Agreement For Purchase of Dulane

CHICAGO—In another move in its expansion program, Nesco, Inc. has made an agreement for the acquisition of Dulane, Inc., River Grove, Ill.

R. L. Purcell, executive vice president of Nesco, said no changes in Dulane personnel are contemplated. He said Robert Dusek, president of Dulane, would continue as its head.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

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POSITIONS WANTED

SALES MANAGEMENT, development, and product promotion executive, with ability and extensive experience in the air conditioning, refrigeration, and heating industry, open for position after November 1. Industry acquaintance national with manufacturers, distributors, wholesalers, dealers, and manufacturers' agents. Right age. Aggressive. Large and small corporation experience. BOX 4422, Air Conditioning & Refrigeration News.

SALES ENGINEER open for position. 15 years' heavy experience in establishment and sales development of distributors, wholesalers, and dealers, application engineering, product promotion, and training of distributor-wholesaler sales personnel. Acquainted nationally with manufacturers, distributors, wholesalers, and dealers. Free to travel, relocate. BOX 4428, Air Conditioning & Refrigeration News.

SALES AND advertising manager. Experienced in sales, advertising, and engineering of commercial refrigeration, air conditioning, and accessories. Nineteen years in industry. Age 43. Knows U. S., Canadian customers; has export marketing experience. Will forward complete resume of business history and references when contacted. BOX 4429, Air Conditioning & Refrigeration News.

SPARK PLUG SPEAKER. Age 39; 17 years service leading manufacturer, experienced all phases appliance and room air conditioner merchandising. Functioned as factory refrigeration field representative, distributor sales manager. Broad contacts in southwest. Trained inspirational speaker, sales meeting specialist. Desire to represent air conditioner manufacturer in southwest. BOX 4430, Air Conditioning & Refrigeration News.

WANTED: WORK at refrigeration service. Experience: 10 years commercial and household, 9 years with ice cream company, fountains, cabinets. Also supervisory experience. Age 47. White, married, with good habits. Tools and car. Near Tucson, Arizona. Member R.S.E.S. References. BOX 4431, Air Conditioning & Refrigeration News.

REFRIGERATION SERVICE engineer. 20 years' experience with Chrysler Airtemp and all other air conditioning and commercial units and fixtures, including heating. Married, sober. Own tools. Interested in year-round position. Will move anywhere for future. BOX 4432, Air Conditioning & Refrigeration News.

SUCCESSFUL, 26 year old, sales engineer desires sales position with manufacturer or distributor of refrigeration, air conditioning, or heating equipment. Am now located in N. Y. area. Will travel or relocate. Auto. BOX 4434, Air Conditioning & Refrigeration News.

AIR CONDITIONING SALES engineer desires connection in Midwest territory to apply engineering and sales promotion, through dealer outlets. Qualifying record of sales available. Age 48. Attending Cleveland Show. Available for interview by call or letter sent to tentative contact point for mail or messages. GEORGE DEANS, Hotel Statler, Cleveland, Ohio.

POSITIONS AVAILABLE

DISTRICT SALES managers: Several good territories open for serious, hard-working men interested in a permanent connection and willing to build a good future with one of the most complete and well-recognized lines in the commercial refrigerator industry. Apply only if your present income is not commensurate with your best ability. Interviews can be arranged at the Cleveland All-Industry Show. FOGEL REFRIGERATOR COMPANY, Philadelphia 37, Pa.

MANAGER OF commercial refrigeration and air conditioning service department of Hill Distributor in Boston area. Able to take complete responsibility for sub-contracting, service, purchasing, installations, inventory, repairs, estimating, and layout. (No sales.) Should be 35 or over. All replies strictly confidential. See Russ Maintain at Hotel Statler during show, or write him c/o MAINTAIN STORE ENGINEERING SERVICE, INC., 22 Crane Court, Woburn, Massachusetts.

MANUFACTURER'S REPRESENTATIVES, territories available, for new Cooler Cub water coolers and circulating liquid type coolers. Exteremely attractive prices. Advantages in size, weight, method of construction. Give full background and territory, or visit us at Booth 812, 8th All-Industry Exposition, Cleveland. REMCOR PRODUCTS COMPANY, 321 E. Grand Avenue, Chicago 11.

AIR CONDITIONING ENGINEER. Large manufacturer of heating and air conditioning equipment has opening in engineering department for an engineer with experience in design, specification, and installation of residential and commercial air conditioning equipment. Air conditioning program is being expanded, and opportunity for the proper man is limited only by his ability. Please state qualifications and salary desired in letter. Our organization knows of this advertisement. Replies held in confidence. BOX 4415, Air Conditioning & Refrigeration News.

SALES ENGINEER—Wholesale refrigeration and air conditioning. Experience in contacting servicemen and contractors. Engineering ability in both refrigeration and air conditioning necessary. Good opportunity. Western location, small territory. Give full details with references and recent photograph. Write BOX 4416, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER: To assume responsibility of design section of Midwest ice cream cabinet manufacturer. Experienced in low temperature refrigerator cabinet production and development. Give full details in resume, regarding experience in design, equipment, recent salaries, and education. BOX 4435, Air Conditioning & Refrigeration News.

MATURE ENGINEERING graduate who is familiar with condensing units and coils. Must be capable of supervising a refrigeration testing laboratory and drafting department. A challenge and opportunity for the right man. Well-established firm in the midst of an expansion program. Write now, giving full details. BOX 4436, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

NORGE SEALED units needed for reoperation process. Top prices paid. Convert your old units into cash. Give cabinet model number. MODERN REFRIGERATION COMPANY, INC., 12541 E. McNichols Road, Detroit 5, Michigan.

WE WILL purchase any quantity of surplus refrigeration equipment and material. Best cash prices will be paid for compressors, sealed units, motors, valves, controls, including all types of electrical equipment. Please send full particulars. Prompt attention assured. R & R EQUIPMENT COMPANY, 2724 Third Avenue, New York 54, New York.

WANTED: USED Frigidaire relays, type YG2—any amount—will pay 25 cents each. Send relays—we'll send check. UNITED CONTROL REPAIR COMPANY, 342 West 70th Street, New York 23, N. Y.

WANTED: FREON-12, for export, large quantity, needed for several months. Reply BOX 4437, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

FANS AXIAL flow, 28" direct connected 7½ HP, 440-3-60 motor, 1750 R.P.M., 20,000 C.F.M. @ ½" S.P., $105.00 each. TA-28, less motor, capacity at 1750 R.P.M., 15,800 C.F.M., $55.00 each. Brand new. Evaporators, Floor type cooler, water defrost, 96,000 BTU/hr @ 10° T.D., 5 HP, 220-3-60 fan motor, $632.00. ED-151, conditioned air evaporators, 1250 BTU/hr @ 10° T.D., $22.00 each. New—in original crates. Write or wire GENERAL AIR CONDITIONING AND HEATING COMPANY, 2001 Peralta Street, Oakland 7, California.

ONE KENNARD ct. 5 cooling tower, 5 ton capacity. Used two years, in good condition. MAINCO AIR CONDITIONING & REFRIGERATION CORP., 453 West 42nd Street, New York, N. Y. LOngacre 3-5600.

HOUSEHOLD SINGLE button temp. controls, type A, setting 12° to 26°, 33 cap. includes mtg. plate 3¾ hole centers rating up to ½ hp. Brand-new, in cartons, ea. $1.95. Small hermetic charging valve ⅛ SAE f.p.t. to ¼ SAE flare, a valve for many purposes tested for 300 lb., machined brass, ea. 65¢, 6 to a carton. R & R EQUIPMENT COMPANY, 2724 Third Avenue, New York 54, N. Y.

ATTENTION SERVICEMEN — Send for our 1953 Catalog. Relays, expansion valves, controls, dehydrators, V belts, open & hermetic units. All new merchandise at great savings up to 50%. Sold on Money Back Guarantee. WALTER W. STARR REFRIGERATION, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

FOR SALE—Well-established commercial refrigeration doing very large volume of business. Have Frigidaire franchise, also sole distributor of Electro Freeze Ice Cream Machine for the state of California. Located in Lynwood, a suburb of Los Angeles, California. Will sell building or complete business. Real bargain. BOX 4391, Air Conditioning & Refrigeration News.

MISCELLANEOUS

NORGE SEALED units remanufactured or exchanged. Immediate delivery from stock, 2 year warranty. Freon refrigerant. Write for prices and shipping instructions. Genuine Norge terminals for Norge sealed units. Sets of three, $1.15 plus postage. MODERN REFRIGERATION CO., INC., 12541 E. McNichols Road, Detroit 5, Mich.

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request **to the purchasing officer under which the purchase is listed** in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. This will save time in filling your request. For reasons of economy, specifications are normally not included with the bid invitations unless the specification is a new one.

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its adderss is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices.

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Purchasing & Contracting Office, 3800th Air University Wing, Maxwell Air Force Base, Alabama			
Installing air conditioning system, Bldg. 849, Maxwell AFB, Alabama.	Job	(01-600-54-21)	17 Nov 53
District Public Works Office, Sixth Naval District, Naval Base, Charleston, South Carolina			
Repairs to plumbing and heating systems, Nav. Hosp., Jacksonville, Fla.	1	39448B	25 Nov 53

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, 1800 Federal Office Bldg., Kansas City 6, Missouri			
Air conditioning units, 3 items, window type, Fed. Spec. OO-A-372.	80 ea.	(1JD-KC-30298)	17 Nov 53

CONTRACTS AWARDED THROUGH NOV. 2

Headquarters, San Antonio Air Materiel Area, Kelly Air Force Base, Texas
Repair and overhaul of Refrigeration and Air Conditioning Equipment.—Job, $37,303.—Rains Refrigeration Service, 407 Terrell Ave., San Antonio, Texas.

Corps of Engineers, U. S. Army, Office of the District Engineer, Jacksonville District, P.O. Box 4970, Jacksonville, Florida
Const. Cold Storage Plant, Fort Buchanan, Puerto Rico.—Job, $631,035.—Universal Trades, Inc., P.O. Box 174, Green Cove Springs, Florida. Prime Contractors has subcontracts open for Electrical Work. Area in which subcontractors are desired: Puerto Rico.

General Services Administration, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Illinois
Water Coolers.—150 ea., $16,800.—Westinghouse Electric Corp., 1625 "K" St., N.W., Washington, D. C.
Refrigerators.—282 ea., $30,610.—Nash-Kelvinator Sales Corp., 2010 Kendall St., N.E., Washington, D. C.
Refrigerators.—102 ea., $10,988.—Frigidaire Sales Corp., 2315 Cecil Ave., Baltimore 18, Md.

Report Birtman To Produce 1/3-Ton Room Units for Sears

CHICAGO — Arrangements have been concluded under which Birtman Electric Co. here, appliance maker, will manufacture ⅓-ton room air conditioners for Sears Roebuck & Co., according to local reports. These units would be in addition to the air conditioners produced for Sears by Mitchell Mfg. Co.

Thor Buys Phillips Control In Stock-for-Stock Deal

CHICAGO — Thor Corp. has announced its purchase, on a stock-for-stock basis, of Phillips Control Corp. of Joliet, Ill.

The Joliet firm will be operated by a wholly-owned subsidiary of Thor, with John E. Mossman, Phillips founder and president, serving as president of the subsidiary and all other Phillips personnel retaining their present positions.

Civilian users of Phil-Trol components include manufacturers of major home appliances, vending machines, radios, phonographs, broadcasting equipment, welding equipment, and machine tools.

MORE INFORMATION?
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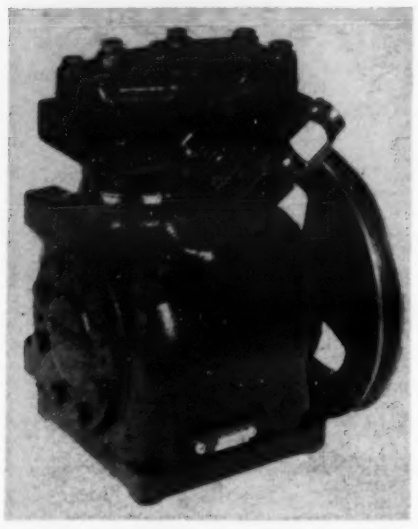


MODEL H automotive compressor, a high-speed, heavy-duty unit.

Tecumseh--

(Concluded from Page 1, Column 5)

twin-cylinder integral-horsepower hermetics; and a baseless highside.

The "H" model automotive compressor is a high-speed, heavy-duty unit "engineered to the exacting standards of this type of installation," the company said.

Over-all dimensions have been reduced to allow the compressor to fit in very limited space. The present model will fit all present car models and expected future automotive developments, according to Tecumseh. It is described as light in weight with special bearings designed for rough wear.

"All rotating parts are dynamically balanced to reduce vibration," the company stated. "An added advantage is that this compressor may be mounted either horizontally or vertically. The crankshaft may be factory assembled from either end of the compressor, making it adaptable for either right or left-hand mounting."

Features of the ¾-hp. internally-spring-mounted single-cylinder air

MODEL S7R16 ¾-hp., single-cylinder air conditioning compressor.

conditioning compressor (model S7R16 and S7N16) include substantial cost reduction over the ¾-hp. twin-cylinder compressors, additional savings since the vibration loop in the tubing will not be necessary, and external springs eliminated allowing easier shipping and permitting solid bolting to base of cabinet.

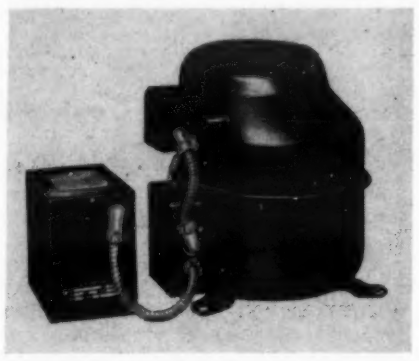
The ⅛ and 1/6-hp. pancake compressors are designated models P91 and P6112. The ⅛-hp. unit is an improvement over the old pancake, and the 1/6-hp. compressor extends the line to cover most household applications.

"Much quieter operation" was listed as a feature of these compressors. The company added:

"By replacing the internal-spring-mounted compressor in these sizes, manufacturers may make a considerable cost saving. Capacities are increased over the old pancakes. These models also permit standardization of cabinet design for most household refrigerators with the resulting economies."

Tecumseh said the ⅛ and 1/6-hp. adjustable slant, static units "will permit manufacturers to standardize on one model instead of several previously built.

"The slant of the condenser can be adjusted to four different positions (2°, 12°, 22°, and 32° from the horizontal) for maximum flexibility. This will allow minimum inventories for replacement static condensing units for both manufacturers and wholesalers.



YEAR-ROUND Model HD 300 3-hp. compressor.

"The adjustable feature will permit the use of this model in a variety of existing cabinets using a static condenser."

The 1½-hp. twin-cylinder air conditioning compressor (model B32P16) continues the line of Tecumseh twin-cylinder externally-mounted compressors which now includes models for ½, ¾, 1, and 1½ hp.

"Extremely quiet" operation and cost savings over the internally-mounted 1½-hp. compressors are claimed for this unit.

The new line of twin-cylinder, integral-horsepower hermetics are internally spring mounted and are built for ¾, 1, 1½, 2, and 3-hp. applications. The ¾-hp. unit is for low back pressure only, and the other models for high back pressure only.

Single or three-phase electrical hookup is available in the 1½, 2, and 3-hp. models. All are heavy-duty compressors to handle larger commercial applications and residential year-round air conditioning.

The baseless highside (model S4814LP) will be built in ¼ and ⅓-hp. sizes for all present models. A ½-hp. model is being developed for future release.

Cost savings as a result of mounting condenser and fan motor directly to the compressor without a stamped base is cited as a feature.

The ¼-hp. unit (model S4814L as compared with new model S4814LP) will be ⅜ in. longer but will reduce the height by 1¾ in. and the width by 15/16 in. This allows a comparable reduction in the machine space.

A new type of wire and tube condenser is used on this model which, according to the company, "reduces air noise giving considerably quieter over-all operation. The new condenser is also less likely to trap dirt and dust."

Union Asbestos--

(Concluded from Page 1, Column 4)

Marshville, N. C., and McGregor, Texas.

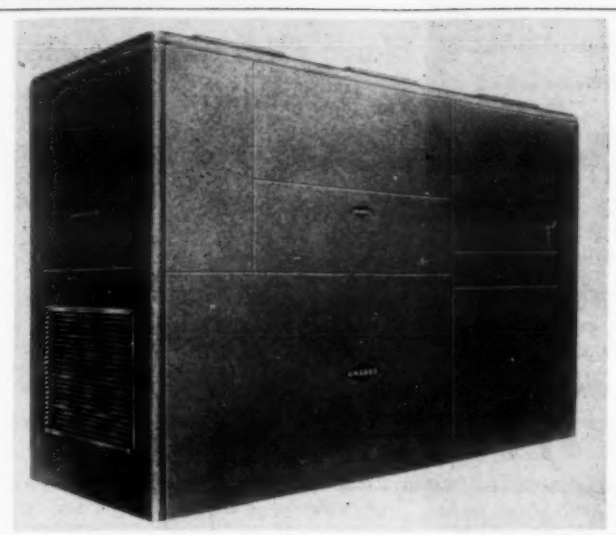
Edwin E. Hokin, vice president of Union Asbestos, will be in charge of the heating and air conditioning division of the company.

A nationwide sales organization has been set up with offices in 25 cities. All of the firm's output of heating and air conditioning equipment will be marketed under the name of "Unarco," the trade name under which Union Asbestos sells the products currently manufactured.

"Our heating and air conditioning products will be marketed through the trade (plumbing, heating, refrigeration, and air conditioning contractors)," Hokin said, "because these trades are not only in the best position to specify the type of product needed for specific installations, but are best equipped to install and service it. Working in cooperation with architects and our own staff of engineers, contractors will be able to furnish Unarco products best designed for each project.

"Unarco air conditioning components and units will be manufactured in Greenville, which plant will be expanded to meet the increasing market. Both heating and air conditioning units are already being turned out under the Unarco trademark and will be displayed for the first time" at the All-Industry Exposition.

"Production and marketing in the heating and air conditioning field is a logical step for our company," Hokin pointed out, "as we long have been concerned with temperature control problems with our other products. Thus we feel that our entry into the heating and air conditioning field itself is no great departure and, of course, adds considerable diversification to our present lines."



UNARCO self-contained air conditioners are available in models ranging from 2 to 50 hp. and are designed for heavy commercial use.

The newly acquired Greenville plant has been a supplier of air conditioning components to several of the largest manufacturers of air cooling equipment in the industrial and residential field. Its output in the future will be devoted exclusively to Unarco.

Nevinger Mfg. Co. was established in 1928. Its equipment has been installed throughout the world.

Union Asbestos & Rubber Co. was organized in 1918. Its fibrous products include an extensive list of heat insulations, packings, gaskets and textiles for industrial installations, and for processing of oil, gas, chemical, and food products.

The heating products manufactured under the name of Unarco include: modern cabinet-enclosed convectors, with models for residential, industrial, and institutional radiation; baseboard floorvector radiation for homes; wall radiation for commercial and industrial application; horizontal and vertical delivery heaters, and ceiling-suspended downblow heaters for industrial applications.

The Unarco line of air conditioning equipment includes: large capacity water-cooled commercial and industrial package type cooling units, ranging from 2 to 50-hp., self-contained water-cooled highboy models of 2 through 15 hp., ceiling-suspended units of 3 to 10 hp., portable "Mobil-Aire" models for use in several different rooms, and a radically new combination heating and cooling unit for the residential market completely packaged in a single cabinet in capacity from 1½ tons through 10 tons with heating capacities to match.

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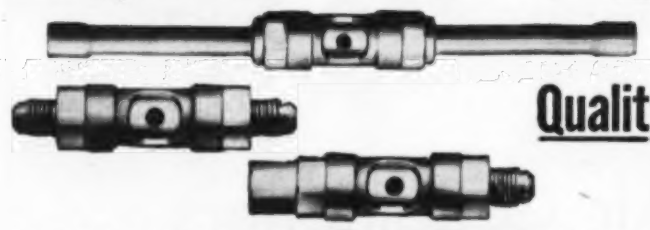

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